OPERATOR'S MANUAL
FRYMASTER BIELA14 SERIES LOV™
ELECTRIC FRYER

This equipment chapter is to be installed in the Fryer Section of the *Equipment Manual.*

FOR YOUR SAFETY
Do Not Store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.



MANUFACTURED BY

8700 Line Ave.
SHREVEPORT, LOUISIANA 71106
PHONE: 1-318-865-1711
TOLL FREE: 1-800-551-8633
1-800-24 FRYER
FAX: 1-318-219-7135

TABLE OF CONTENTS

WARRANTY STATEMENT ..... Page i
INTRODUCTION ..... Page 1-1
INSTALLATION INSTRUCTIONS ..... Page 2-1
OPERATING INSTRUCTIONS ..... Page 3-1
M2007 COMPUTER INSTRUCTIONS ..... Page 4-1
OPERATING THE BUILT-IN FILTRATION SYSTEM ..... Page 5-1
PREVENTIVE MAINTENANCE ..... Page 6-1
OPERATOR TROUBLESHOOTING ..... Page 7-1

Frymaster L.L.C., 8700 Line Avenue 71106, 5489 Campus Drive 71129
PHONE 318-865-1711 FAX 318-219-7135
PRINTED IN THE UNITED STATES SERVICE HOTLINE 1-800-24-FRYER FEBRUARY 2008
8196239

NOTICE

IF, DURING THE WARRANTY PERIOD, THE CUSTOMER USES A PART FOR THIS ENODIS EQUIPMENT OTHER THAN AN UNMODIFIED NEW OR RECYCLED PART PURCHASED DIRECTLY FROM FRYMASTER DEAN, OR ANY OF ITS FACTORY AUTHORIZED SERVICE CENTERS, AND/OR THE PART BEING USED IS MODIFIED FROM ITS ORIGINAL CONFIGURATION, THIS WARRANTY WILL BE VOID. FURTHER, FRYMASTER DEAN AND ITS AFFILIATES WILL NOT BE LIABLE FOR ANY CLAIMS, DAMAGES OR EXPENSES INCURRED BY THE CUSTOMER WHICH ARISE DIRECTLY OR INDIRECTLY, IN WHOLE OR IN PART, DUE TO THE INSTALLATION OF ANY MODIFIED PART AND/OR PART RECEIVED FROM AN UNAUTHORIZED SERVICE CENTER.

NOTICE

This appliance is intended for professional use only and is to be operated by qualified personnel only. A Frymaster Dean Factory Authorized Service Center (FASC) or other qualified professional should perform installation, maintenance, and repairs. Installation, maintenance, or repairs by unqualified personnel may void the manufacturer's warranty. See Chapter 1 of this manual for definitions of qualified personnel.

NOTICE

This equipment must be installed in accordance with the appropriate national and local codes of the country and/or region in which the appliance is installed. See NATIONAL CODE REQUIREMENTS in Chapter 2 of this manual for specifics.

NOTICE TO U.S. CUSTOMERS

This equipment is to be installed in compliance with the basic plumbing code of the Building Officials and Code Administrators International, Inc. (BOCA) and the Food Service Sanitation Manual of the U.S. Food and Drug Administration.

NOTICE

Drawings and photos used in this manual are intended to illustrate operational, cleaning and technical procedures and may not conform to onsite management operational procedures.

NOTICE TO OWNERS OF UNITS EQUIPPED WITH COMPUTERS

U.S.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) This device must accept any interference received, including interference that may cause undesired operation. While this device is a verified Class A device, it has been shown to meet the Class B limits.

CANADA

This digital apparatus does not exceed the Class A or B limits for radio noise emissions as set out by the ICES-003 standard of the Canadian Department of Communications.

Cet appareil numerique n'emet pas de bruits radioelectriques depassany les limites de classe A et B prescrites dans la norme NMB-003 edictee par le Ministre des Communcations du Canada.

⚠ DANGER

Improper installation, adjustment, maintenance or service, and unauthorized alterations or modifications can cause property damage, injury, or death. Read the installation, operating, and service instructions thoroughly before installing or servicing this equipment.

⚠ DANGER

The front ledge of this appliance is not a step! Do not stand on the appliance. Serious injury can result from slips or contact with the hot oil.

⚠ DANGER

Do not store or use gasoline or other flammable liquids or vapors in the vicinity of this or any other appliance.

⚠ DANGER

The crumb tray in fryers equipped with a filter system must be emptied into a fireproof container at the end of frying operations each day. Some food particles can spontaneously combust if left soaking in certain shortening material.

⚠ WARNING

Do not bang fry baskets or other utensils on the fryer's joiner strip. The strip is present to seal the joint between the fry vessels. Banging fry baskets on the strip to dislodge shortening will distort the strip, adversely affecting its fit. It is designed for a tight fit and should only be removed for cleaning.

⚠ DANGER

Adequate means must be provided to limit the movement of this appliance without depending on or transmitting stress to the electrical conduit. A restraint kit is provided with the fryer. If the restraint kit is missing contact your local KES.

⚠ DANGER

This fryer has a power cord (three-phase) for each frypot and a single five-wire cord for the entire system. Prior to movement, testing, maintenance and any repair on your Frymaster fryer; disconnect ALL electrical power cords from the electrical power supply.

⚠ DANGER

Keep all items out of drains. Closing actuators may cause damage or injury.

NOTICE

The instructions in this manual for using a bulk oil system for filling and discarding oil are for an RTI system. These instructions may not be applicable to other bulk oil systems.

LOV™ ELECTRIC WARRANTY STATEMENT

Frymaster, L.L.C. makes the following limited warranties to the original purchaser only for this equipment and replacement parts:

A. WARRANTY PROVISIONS - FRYERS

1. Frymaster L.L.C. warrants all components against defects in material and workmanship for a period of two years.

2. All parts, with the exception of the frypot, O-rings and fuses, are warranted for two years after installation date of fryer.

3. If any parts, except fuses and filter O-rings, become defective during the first two years after installation date, Frymaster will also pay straight-time labor costs up to two hours to replace the part, plus up to 100 miles/160 km of travel (50 miles/80 km each way).

B. WARRANTY PROVISIONS - FRYPOTS

If a frypot develops a leak within ten years after installation, Frymaster will, at its option, either replace the entire battery or replace the frypot, allowing up to the maximum time per the Frymaster time allowance chart hours of straight-time labor. Components attached to the frypot, such as the high-limit, probe, gaskets, seals, and related fasteners, are also covered by the ten-year warranty if replacement is necessitated by the frypot replacement. Leaks due to abuse or from threaded fittings such as probes, sensors, high-limits, drain valves or return piping are not included.

C. PARTS RETURN

All defective in-warranty parts must be returned to a Frymaster Authorized Factory Service Center within 60 days for credit. After 60 days, no credit will be allowed.

D. WARRANTY EXCLUSIONS

This warranty does not cover equipment that has been damaged due to misuse, abuse, alteration, or accident such as:

- improper or unauthorized repair (including any frypot which is welded in the field);
- failure to follow proper installation instructions and/or scheduled maintenance procedures as prescribed in your MRC cards. Proof of scheduled maintenance is required to maintain the warranty;
- improper maintenance;
- damage in shipment;
- abnormal use;
- removal, alteration, or obliteration of either the rating plate or the date code on the heating elements;

- operating the frypot without shortening or other liquid in the frypot;
- no fryer will be warranted under the ten-year program for which a proper start-up form has not been received.

This warranty also does not cover:

- transportation or travel over 100 miles/160 km (50 miles/80 km each way), or travel over two hours;
- overtime or holiday charges;
- consequential damages (the cost of repairing or replacing other property which is damaged), loss of time, profits, use or any other incidental damages of any kind.

There are no implied warranties of merchantability or fitness for any particular use or purpose.

This warranty is applicable at the time of this printing and is subject to change.

BIELA14 SERIES LOV™ ELECTRIC FRYER
CHAPTER 1: INTRODUCTION

NOTE: The Frymaster BIELA14 fryer requires a start-up, demonstration and training before normal restaurant operations can begin.

1.1 General

Read the instructions in this manual thoroughly before attempting to operate this equipment. This manual covers all configurations of McDonald's BIELA14 LOV™ models. The fryers in this model family have most parts in common, and when discussed as a group, will be referred to as "LOV™ fryers.

Although similar in appearance to the RE14 McDonald's electric fryers, the BIELA14 fryers feature a low oil volume frypot, automatic oil topoff and an automatic intermittent filtration unit. The Euro-Look design incorporates a rounded topcap and a large round drain, which ensures that fries and other debris, will be washed into the filter pan. The BIELA14 LOV™ fryers are controlled with an M2007 computer. Fryers in this series come in full- or split-vat arrangements, and can be purchased in batteries of up to five fryers.

1.2 Safety Information

Before attempting to operate your unit, read the instructions in this manual thoroughly.

Throughout this manual, you will find notations enclosed in double-bordered boxes similar to the one below.

⚠ DANGER
Hot oil causes severe burns. Never attempt to move a fryer containing hot oil or to transfer hot oil from one container to another.

⚠ **CAUTION** boxes contain information about actions or conditions that ***may cause or result in a malfunction of your system*.**

⚠ **WARNING** boxes contain information about actions or conditions that ***may cause or result in damage to your system***, and which may cause your system to malfunction.

⚠ **DANGER** boxes contain information about actions or conditions that ***may cause or result in injury to personnel***, and which may cause damage to your system and/or cause your system to malfunction.

Fryers in this series are equipped with the following automatic safety features:

1. Two high-temperature detection features shut off power to the elements should the temperature controls fail.

2. A safety circuit on units with filter systems prevents the elements from heating with the drain valve open.

1.3 Computer Information for the M2007 Computers

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. While this device is a verified Class A device, it has been shown to meet the Class B limits. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If necessary, the user should consult the dealer or an experienced radio and television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

1.4 European Community (CE) Specific Information

The European Community (CE) has established certain specific standards regarding equipment of this type. Whenever a difference exists between CE and non-CE standards, the information or instructions concerned are identified by means of shadowed boxes similar to the one below.

CE Standard

Example of box used to distinguish CE and Non-CE specific information.

1.5 Installation, Operating, and Service Personnel

Operating information for Frymaster equipment has been prepared for use by qualified and/or authorized personnel only, as defined in Section 1.6. **All installation and service on Frymaster equipment must be performed by qualified, certified, licensed, and/or authorized installation or service personnel, as defined in Section 1.6.**

1.6 Definitions

QUALIFIED AND/OR AUTHORIZED OPERATING PERSONNEL

Qualified/authorized operating personnel are those who have carefully read the information in this manual and have familiarized themselves with the equipment functions, or who have had previous experience with the operation of the equipment covered in this manual.

QUALIFIED INSTALLATION PERSONNEL

Qualified installation personnel are individuals, firms, corporations, and/or companies which, either in person or through a representative, are engaged in and are responsible for the installation of electrical appliances. Qualified personnel must be experienced in such work, be familiar with all electrical precautions involved, and have complied with all requirements of applicable national and local codes.

QUALIFIED SERVICE PERSONNEL

Qualified service personnel are those who are familiar with Frymaster equipment and who have been authorized by Frymaster, L.L.C. to perform service on the equipment. All authorized service personnel are required to be equipped with a complete set of service and parts manuals, and to stock a minimum amount of parts for Frymaster equipment. A list of Frymaster Dean Factory Authorized Service Centers (FASC) is included with the fryer when shipped from the factory. ***Failure to use qualified service personnel will void the Frymaster warranty on your equipment***

1.7 Shipping Damage Claim Procedure

What to do if your equipment arrives damaged:

Please note that this equipment was carefully inspected and packed by skilled personnel before leaving the factory. The freight company assumes full responsibility for safe delivery upon acceptance of the equipment.

1. **File Claim for Damages Immediately** - regardless of extent of damage.

2. **Inspect For and Record All Visible Loss or Damage,** and ensure that this information is noted on the freight bill or express receipt and is signed by the person making the delivery.

3. **Concealed Loss or Damage-** If damage is unnoticed until equipment is unpacked, notify the freight company or carrier **immediately** upon discovery and file a concealed damage claim. This must be submitted within 15 days of date of delivery. Be sure to retain container for inspection.

Frymaster DOES NOT ASSUME RESPONSIBILITY FOR DAMAGE OR LOSS INCURRED IN TRANSIT.

1.8 Service Information

For non-routine maintenance or repairs, or for service information, contact your local Frymaster Dean Authorized Service Center (FASC). In order to assist you quickly, the Frymaster Dean Factory Authorized Service Center (FASC) or Service Department representative requires certain information about your equipment. Most of this information is printed on a data plate affixed to the inside of the fryer door. Part numbers are found in the Service and Parts Manual. Parts orders may be placed directly with your local FASC or distributor. Included with fryers when shipped from the factory is a list of Frymaster Dean FASCs. If you do not have access to this list, contact the Frymaster Dean Service Department at 1-800-551-8633 or 1-318-865-1711 or by email at service@frymaster.com.

The following information will be needed in order to assist you efficiently:

Model Number _____

Serial Number_____

Voltage _____

Nature of the Problem_____

_____

_____

RETAIN AND STORE THIS MANUAL IN A SAFE PLACE FOR FUTURE USE.

BIELA14 SERIES LOV™ ELECTRIC FRYER
CHAPTER 2: INSTALLATION INSTRUCTIONS

2.1 General Installation Requirements

Proper installation is essential for the safe, efficient, trouble-free operation of this appliance.

Qualified, licensed, and/or authorized installation or service personnel, as defined in Section 1.6 of this manual, should perform all installation and service on Frymaster Dean equipment.

Failure to use qualified, licensed, and/or authorized installation or service personnel (as defined in Section 1.6 of this manual) to install or otherwise service this equipment will void the Frymaster warranty and may result in damage to the equipment or injury to personnel.

Where conflicts exist between instructions and information in this manual and local or national codes or regulations, installation and operation shall comply with the codes or regulations in force in the country in which the equipment is installed.

Service may be obtained by contacting your local Frymaster Dean Factory Authorized Service Center.

NOTICE

All fryers shipped without factory supplied cords and plug assemblies must be hardwired using flexible conduit to the terminal block located on the rear of the fryer. These fryers should be wired to NEC specifications. Hardwired units must include installation of restraint devices.

⚠ DANGER

Adequate means must be provided to limit the movement of this appliance without depending on or transmitting stress to the electrical conduit. A restraint kit is provided with the fryer. If the restraint kit is missing contact your local Frymaster Dean Factory Authorized Service Center (FASC).

NOTICE

If this equipment is wired directly into the electrical power supply, a means for disconnection from the supply having a contact separation of at least 3-mm in all poles must be incorporated in the fixed wiring.

NOTICE

This equipment must be positioned so that the plug is accessible unless other means for disconnection from the power supply (e.g., a circuit breaker) is provided.

NOTICE

If this appliance is permanently connected to fixed wiring, it must be connected by means of copper wires having a temperature rating of not less than 167°F (75°C).

NOTICE

If the electrical power supply cord is damaged, it must be replaced by a Frymaster Dean Factory Authorized Service Center technician or a similarly qualified person in order to avoid a hazard.

⚠ DANGER

This appliance must be connected to a power supply having the same voltage and phase as specified on the rating plate located on the inside of the appliance door.

⚠ DANGER

All wiring connections for this appliance must be made in accordance with the wiring diagram(s) furnished with the appliance. Refer to the wiring diagram(s) affixed to the inside of the appliance door when installing or servicing this equipment.

⚠ DANGER

Frymaster Dean appliances equipped with legs are for stationary installations. Appliances fitted with legs must be lifted during movement to avoid damage to the appliance and bodily injury. For movable installations, optional equipment casters must be used. Questions? Call 1-800-551-8633.

⚠ DANGER

Do not attach an apron drainboard to a single fryer. The fryer may become unstable, tip over, and cause injury. The appliance area must be kept free and clear of combustible material at all times.

⚠ DANGER

Building codes prohibit a fryer with its open tank of hot oil being installed beside an open flame of any type, including those of broilers and ranges.

In the event of a power failure, the fryer(s) will automatically shut down. If this occurs, turn the power switch OFF. Do not attempt to start the fryer(s) until power is restored.

This appliance must be kept free and clear of combustible material, except that it may be installed on combustible floors.

A clearance of 6 inches (15cm) must be provided at both sides and back adjacent to combustible construction. A minimum of 24 inches (61cm) should be provided at the front of the equipment for servicing and proper operation.

⚠ WARNING

Do not block the area around the base or under the fryers.

2.1.2 Electrical Grounding Requirements

All electrically operated appliances must be grounded in accordance with all applicable national and local codes, and, where applicable, CE codes. All units (cord connected or permanently connected) should be connected to a grounded power supply system. A wiring diagram is located on the inside of the fryer door. Refer to the rating plate on the inside of the fryer door for proper voltages.

⚠ WARNING

To ensure the safe and efficient operation of the fryer and hood, the electrical plug for the 120-volt line, which powers the hood, must be fully engaged and locked in its pin and sleeve socket.

2.1.3 Australian Requirements

To be installed in accordance with AS 5601 / AG 601, local authority, gas, electricity, and any other relevant statutory regulations.

2.2 Power Requirements

The three phase supply plug for the elements is rated at 60 amps, 250 VAC and is NEMA configuration L15-60P. The control and filter plug is rated at 20 amps, 120/208 VAC and is NEMA configuration L21-20P. Each fryer should have its cord for the element supply on an individual circuit as well as the control cord.

VOLTAGE	PHASE	WIRE SERVICE	MIN. SIZE	AWG (mm^2)	AMPS PER LEG		
					L1	L2	L3
208	3	3	6	(16)	39	39	39
240	3	3	6	(16)	34	34	34
480	3	3	8	(10)	17	17	17
220/380	3	4	6	(16)	21	21	21
240/415	3	4	6	(16)	20	20	21
230/400	3	4	6	(16)	21	21	21
230/400 **France Only**	3	4	6	(16)	25	25	25

NOTICE

If this appliance is permanently connected to fixed wiring, it must be connected by means of copper wires having a temperature rating of not less than 167°F (75°C).

⚠ DANGER

This appliance must be connected to a power supply having the same voltage and phase as specified on the rating plate located on the inside of the appliance door.

⚠ DANGER

All wiring connections for this appliance must be made in accordance with the wiring diagram(s) furnished with the appliance. Refer to the wiring diagram(s) affixed to the inside of the appliance door when installing or servicing this equipment.

2.3 After Fryers Are Positioned At the Frying Station

⚠ DANGER

No structural material on the fryer should be altered or removed to accommodate placement of the fryer under a hood. Questions? Call the Frymaster Dean Service Hotline at 1-800-551-8633.

1. Once the fryer has been positioned at the frying station, use a carpenter's level placed across the top of the frypot to verify that the unit is level, both side-to-side and front-to-back.

   To level fryers, adjust the casters being careful to ensure the fryer(s) are at the proper height in the frying station.

   When the fryer is leveled in its final position, install the restraints provided by the KES to limit its movement so that it does not depend on or transmit stress to the electrical conduit or connection. Install the restraints in accordance with the provided instructions. If the restraints are disconnected for service or other reasons, they must be reconnected before the fryer is used.

⚠ DANGER

Adequate means must be provided to limit the movement of this appliance without depending on or transmitting stress to the electrical conduit. A restraint kit is provided with the fryer. If the restraint kit is missing contact your local Frymaster Dean Factory Authorized Service Center (FASC).

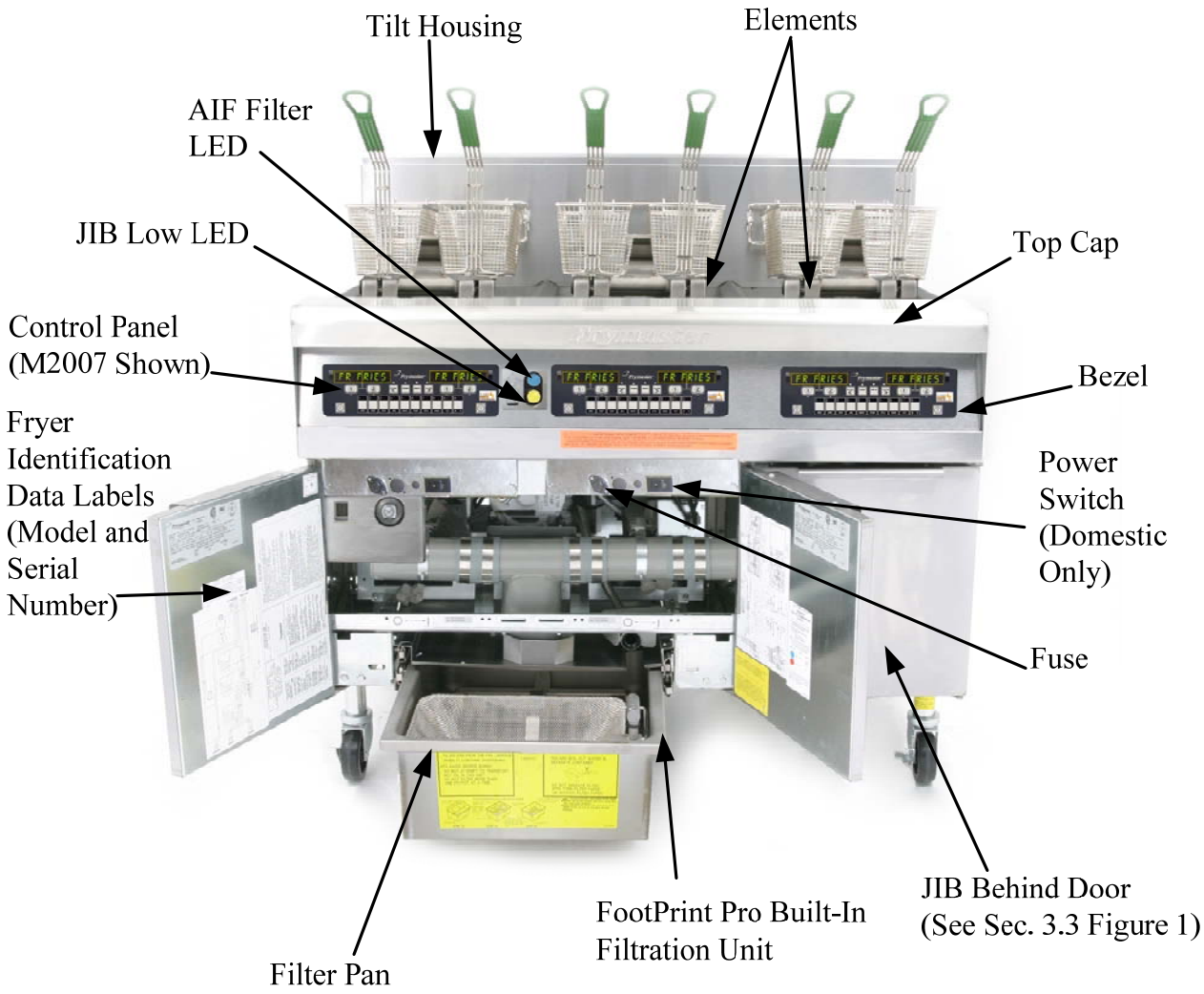
⚠ DANGER

Hot oil can cause severe burns. Avoid contact. Under all circumstances, oil must be removed from the fryer before attempting to move it to avoid spills, falls, and severe burns. Fryers may tip and cause personal injury if not secured in a stationary position.

2. Close fryer drain-valve(s) and fill frypot with water to the bottom oil level line.
3. Deep Clean (Boil-out) frypot(s) in accordance with the instructions on page 4-27 of this manual.
4. Drain, clean, and fill frypot(s) with cooking oil. (See ***Equipment Setup and Shutdown Procedures*** in Chapter 3.)

BIELA14 SERIES LOV™ ELECTRIC FRYER
CHAPTER 3: OPERATING INSTRUCTIONS

FINDING YOUR WAY AROUND THE BIELA14 SERIES LOV™ ELECTRIC FRYER



TYPICAL CONFIGURATION (BIELA314 SHOWN)

NOTE: The appearance of your fryer may differ slightly from that shown depending upon configuration and date of manufacture.

3.1 Equipment Setup and Shutdown Procedures

Setup

⚠ DANGER

Never operate the appliance with an empty frypot. The frypot must be filled to the fill line with water or oil before energizing the elements. Failure to do so will result in irreparable damage to the elements and may cause a fire.

⚠ DANGER

Remove all drops of water from the frypot before filling with oil. Failure to do so will cause spattering of hot liquid when the oil is heated to cooking temperature.

⚠ WARNING

The BIELA14 is not intended to use solid shortening. Use only liquid shortening with this fryer. The use of solid shortening will clog the oil lines. The oil capacity of the BIELA14 fryer is 31 lbs. (3.7 gallons/14 liters) for a full-vat and 15.5 lbs. (2.5 gallons/7 liters) for a dual-vat at 70°F (21°C).

Prior to filling frypots with oil, press the reset button to ensure all drains are closed.

1. Fill the frypot with cooking oil to the bottom OIL LEVEL line located on the rear of the frypot. This will allow for oil expansion as heat is applied. Do not fill cold oil any higher than the bottom line; overflow may occur as heat expands the oil.

2. Ensure that the power cord(s) is/are plugged into the appropriate receptacle(s). Verify that the face of the plug is flush with the outlet plate, with no portion of the prongs visible.

3. Ensure that the power is switched on. Some models are equipped with a master switch located behind the fryer door cabinet on the front panel of the component box, next to the fuse. This switch **MUST** be switched on prior to switching on the computers.

4. Ensure that the computer is switched ON.

5. Ensure that the oil level is at the *top* OIL LEVEL line when the oil *is at its cooking temperature*.

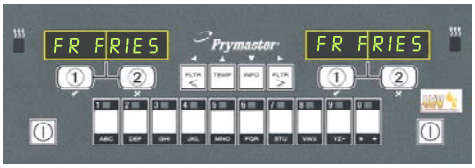
Shutdown

1. Turn the fryer off.
2. Filter the oil and clean the fryers (See Chapters 5 and 6).
3. Place the frypot covers on the frypots.

3.2 Operation

If this is the first time the fryer is being used, refer to the frypot deep clean (boil-out) procedure on Page 4-27.

This fryer is equipped with M2007 computers (illustrated below). Refer to the *M2007 Computer Operating Instructions in Chapter 4* for the computer programming and operating procedures.



M2007 COMPUTER

Refer to Chapter 5 of this manual for operating instructions for the built-in filtration system.

3.3 Low Oil Volume Automatic Refill

When the optional Low Oil Volume (LOV™) system is in place on the fryer, oil is continually topped off in the frypots from a reservoir in the cabinet. The reservoir holds a 35 pound box of oil. In a typical operation this will last approximately two days before changing. Components of the system are annotated at the right (see Figure 1).

NOTE: The system is intended to top off the frypots, not fill them. The frypots will require manual filling upon startup and after deep clean (boil-out).

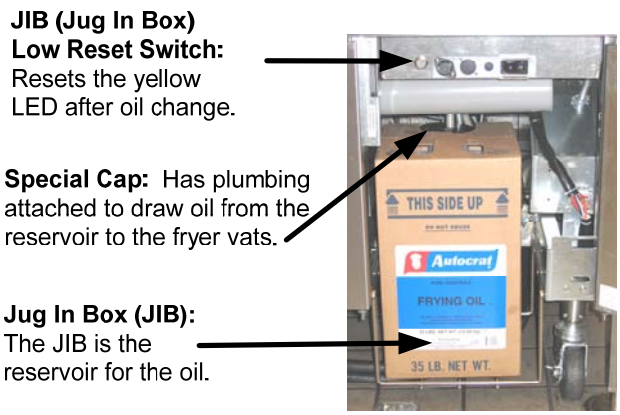


Figure 1

3.3.1 Prepare the System for Use

To prepare the system for its initial operation, remove cross brace (see Figure 2). Do not replace the screws. Install the JIB basket shipped in the accessories pack (see Figure 3). Follow these instructions to prepare the cabinet for the installation of the first box of oil and subsequent boxes of oil.

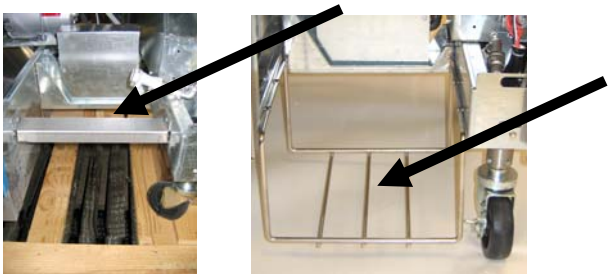


Figure 2 **Figure 3**

3.3.2 Install the Oil Reservoir

Remove the original lid from the oil container and foil liner. Replace with the provided cap, which has connected suction hardware. Ensure the feeder tube from the cap reaches to the bottom of the oil container.

Place the oil container inside the cabinet and slide it into place (as shown on the following page). Avoid catching the suction hardware on the cabinet interior as the container is placed in the fryer.

The system is now ready for operation. As the fryer heats to preprogrammed temperatures, the system will energize and then slowly add oil to the frypot as needed, until the oil reaches an optimal level.

3.3.3 Routine Oil Changes

When the oil reservoir level is low, a yellow LED is activated (see Figure 4). Once the reservoir is refilled and/or replaced, pressing the reset button above the JIB turns the LED off.



Figure 4

1. Open the cabinet and slide the JIB from the cabinet (see Figure 5).



Figure 5

2. Remove the cap and pour any remaining oil in the container into all fry vats equally (see Figure 6).



Figure 6

3. With the jug upright remove the cap and foil seal (see Figure 7).



Figure 7

WARNING:
Do not add HOT or USED oil to a JIB.

4. Put the tube in the new full container (see Figure 8).



Figure 8

5. Slide the JIB onto the shelf inside the fryer cabinet (as seen in Figure 5).

6. Press the JIB reset switch to turn the yellow JIB LED off (see Figure 9).



Figure 9

NOTE: The instructions in this manual for using a bulk oil system for filling and discarding oil are for an RTI system. These instructions may not be applicable to other bulk oil systems.

3.3.4 Bulk Oil Systems

Bulk oil systems have large oil storage tanks, typically located in the rear of the restaurant, that are connected to a rear manifold on the fryer. Waste oil is pumped from the fryer, via the fitting located on the right, to the disposal tanks and fresh oil is pumped from the tanks, thru the fitting located on the left, to the fryer (see Figure 10).

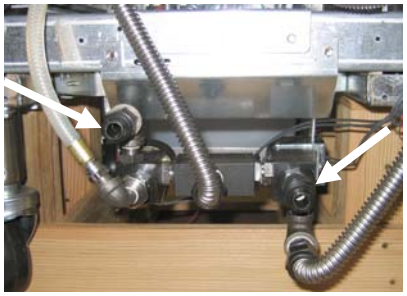


Figure 10

WARNING:
Do not add HOT or USED oil to a JIB.

The LOV™ fryers, equipped for use with bulk oil systems, have an onboard fresh oil jug with two fittings. The rear one is for filling the jug and the front for topping off the frypot from the jug (see Figure 11).



Figure 11

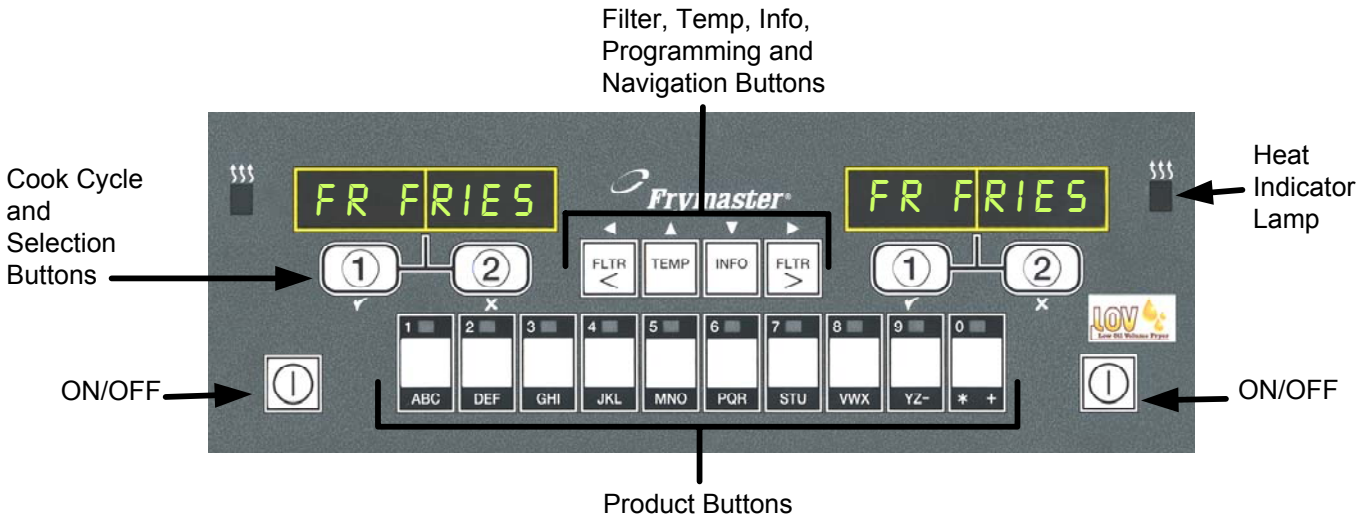
A momentary switch, located inside the door adjacent to the jug, allows the operator to fill the jug from the bulk oil storage tank (see Figure 12).

To fill the tank press and hold the **ADD** button until the jug is full then release.



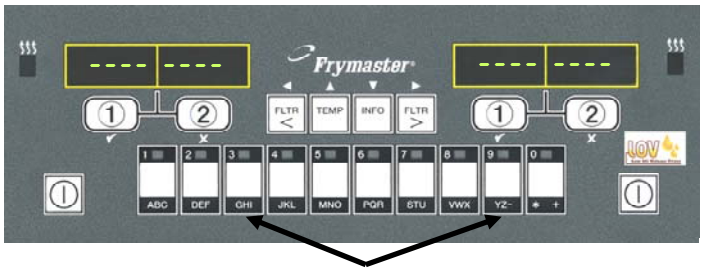
Figure 12

BIELA14 SERIES LOV™ ELECTRIC FRYER
CHAPTER 4: M2007 COMPUTER INSTRUCTIONS



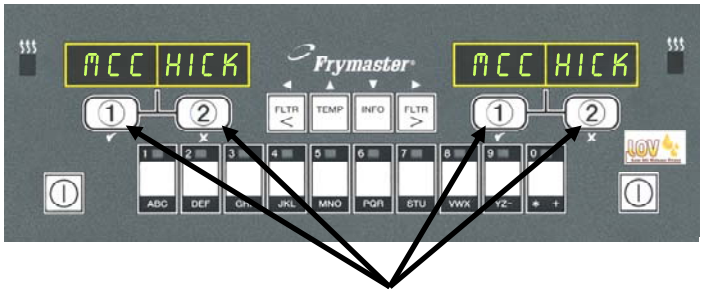
4.1 M2007 General Information

Welcome to the M2007, a computer that retains the one-button ease of the M2000 and 100B and the utility of 40-product menu capability. The computer is easy to use. One button push starts a cook cycle for an item cooked in a dedicated vat. The same flexible computer on a multi-product vat requires only two button pushes to launch a cook cycle. Just choose a menu item on a product buttons and press, and then press a cook cycle button under the display showing the desired item. The computer can move seamlessly from McNuggets to Crispy Chicken to any added menu item.



Pressing product buttons 3 or 9 displays McChick.

In a typical store setting, the M2007s on the three-vat fry station display FR FRIES (shown above) and will launch a cook cycle with one push of a cook channel button. On the chicken/filet station, the LED display shows dashed lines. To launch a cook cycle, press a product button and then press the cook cycle button that corresponds with the location of the dropped basket. By pressing the product button for McChicken, McChick will appear in the display. Just press the cook cycle button corresponding to the location of the appropriate dropped basket.

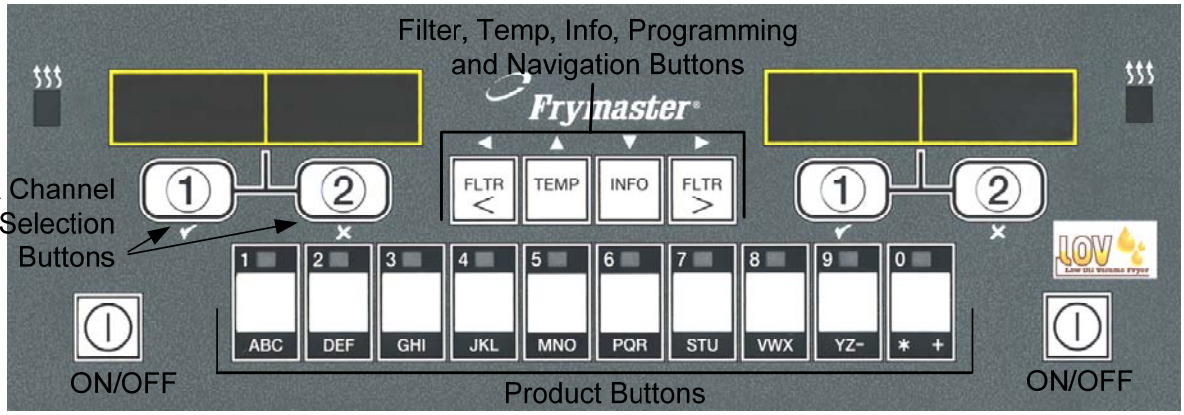


Pressing either cook cycle button under the McChick displays launches a cook cycle.

The M2007 will operate with electric and gas fryers, both full- and split-vat.

4.2 Basic Operation

Basic Operation



Turn Fryer ON

Press right key for full pot; press key on desired side on a split pot.

Turn Fryer OFF

Press right key for full pot; press key on desired side on a split pot.

Check Frypot Temperature

Press Temp key once. Displays show frypot temperatures.

TEMP

Check Frypot Setpoint

Press Temp key twice. Displays show frypot setpoint temperatures.

TEMP

Cancel Duty or Remove Alarm

Press key under active display.

2

Start One-Button Cook Cycle (Dedicated Mode)

Press key under display showing desired item.

1

Start Two-Button Cook Cycle (Multi-Product Mode)

Press product key bearing icon for desired product. Press cook channel button to begin cook cycle.

3 GHI → 2

Change From Dedicated to Multi-Product Mode

Press and hold Cook Channel button under displayed menu item for approximately three seconds until beep is heard. Display changes to dashed lines.

2

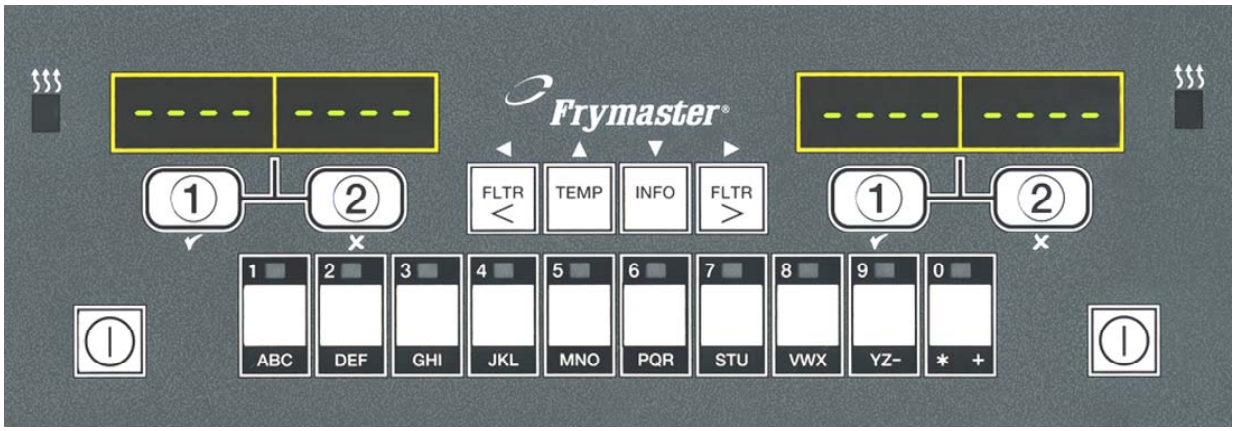
Change From Multi-Product Mode to Dedicated Mode

Press product key bearing icon for desired product. Press cook channel button under display showing desired item until beep is heard (approx three seconds).

3 GHI → 2

4.3 Cooking with Multi-Product Display

Cooking With Multi-Product Display



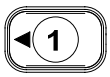
1 Dashed lines appear in both displays. - - - - - - - -

2 Press a product button. 

3 Vat with appropriate setpoint displays: skip to step 5. MC CHICK

4 Vat with inappropriate setpoint displays: <<<<>>>>

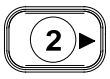
If this occurs, change setpoint by pressing the button assigned to the product. 

When the chevrons appear, immediately press and hold cook button until a beep is heard (approx three seconds). 

5 Press a cook channel button to begin cook cycle. 

6 Display alternates between MCCK and remaining cook time. MC CK / 2:34

7 If a duty is required for this menu item, duty is displayed when it is time to perform a duty, such as shake. DUTY

8 Press cook channel button under duty display to cancel alarm. 

9 Pull is displayed when the cook time is complete; an alarm sounds. PULL

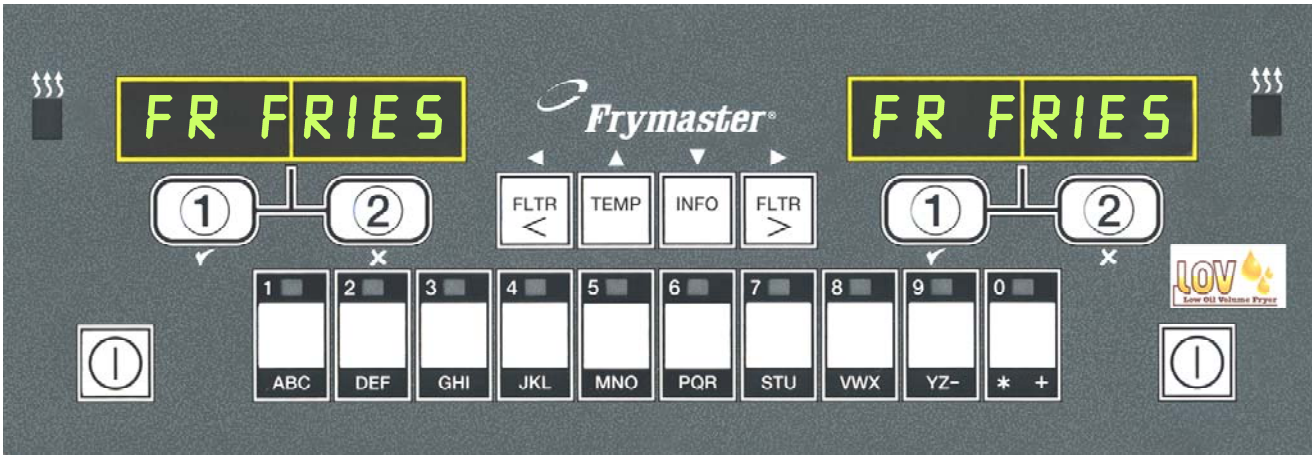
10 Press cook channel button under pull display to cancel alarm. 

11 Dashed lines reappear under active display at the end of the cook cycle. - - - - - - -

NOTE: If error REMOVE DISCARD appears, press and hold cook button under message to remove error message.

4.4 Cooking with Dedicated Display

Cooking With Dedicated Display



1 A menu item, such as FR FRIES shows in display — FR FRIES

2 Press a cook channel button to begin the cook cycle. — (1)

3 Display alternates between abbreviated product name and remaining cook time. — FRIS ⇄ 2:34

4 Duty is displayed when it is time to shake the fry basket. — DUTY

5 Press cook channel button to cancel alarm. — (1)

6 Pull is displayed when the cook cycle is complete. — PULL

7 Press cook channel button to cancel alarm. — (1)

8 Q7 is displayed and alternates with FRIS. As the quality time counts down. — Q7 ⇄ FRIS, Q1 ⇄ FRIS

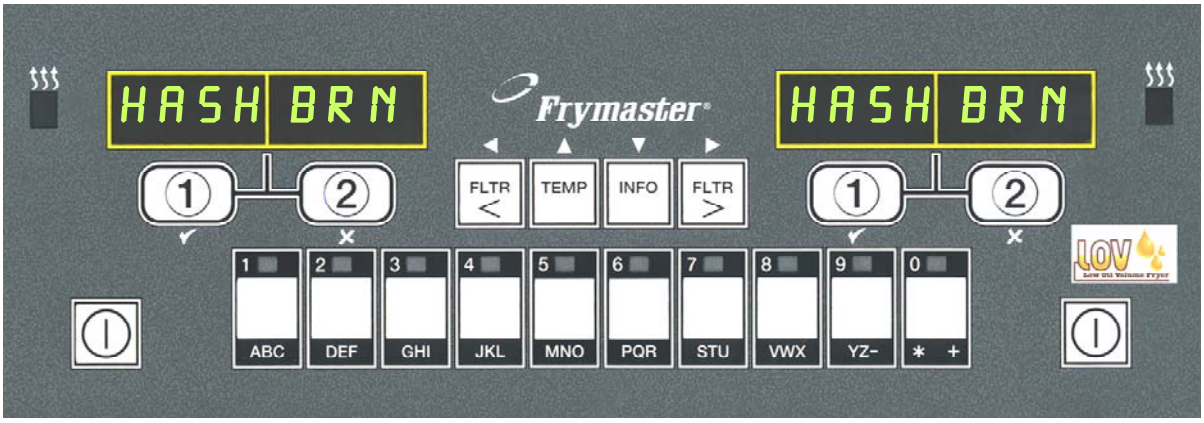
9 *Pressing the cook channel button now will launch a cook cycle and end the quality countdown.* — (1)

10 QA is displayed when the quality time has elapsed. — QA

11 Pressing the cook channel button restores the display to FR FRIES and the unit is ready for cooking. — (1) → FR FRIES

4.5 Changing from Breakfast Setup to Lunch

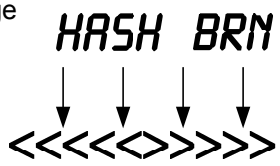
Changing from Breakfast Setup to Lunch



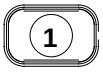
1 Press and quickly release product button for french fries.



2 Computer will change from Hash Brn to <<<<<>>>>>; an alarm will sound.



3 Press and hold the cook channel button under the display until a beep is heard.



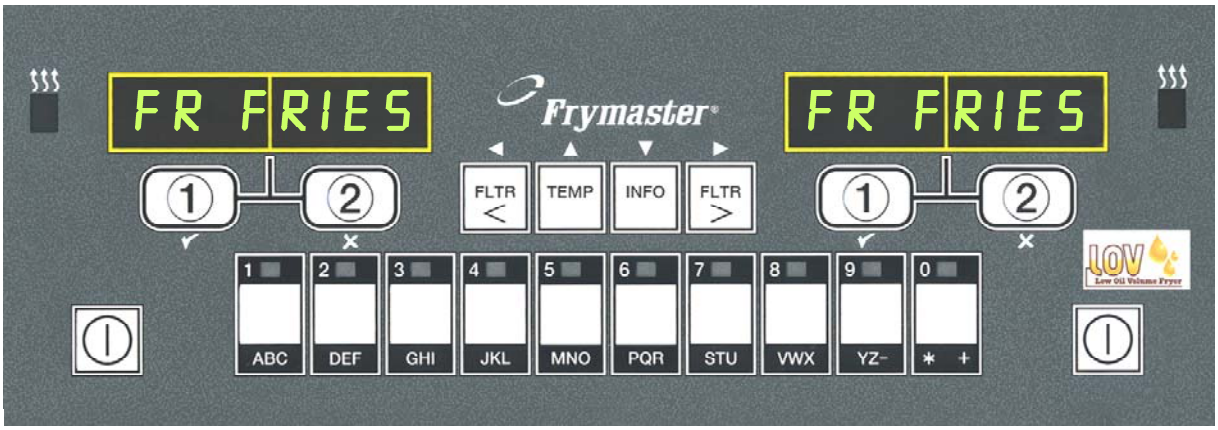
4 Display changes to FR Fries.



Change both displays to FR FRIES

4.6 Changing from Lunch Setup to Breakfast

Changing from Lunch Setup to Breakfast

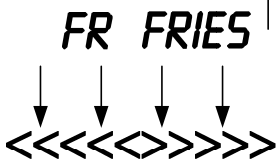


1 Computer displays FR FRIES

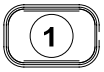
2 Press and quickly release product button for hash browns.



3 Computer display will change from FR Fries to <<<<<>>>>>; an alarm sounds.



4 Press and hold the cook channel button under the display until a beep is heard.



5 Display changes to Low Temp until setpoint is reached. LOW TEMP

6 Display changes to Hash Brn. HASH BRN

4.7 M2007 Button Description and Functions

4.7.1 Navigation Buttons

The menu on the M2007 uses ◄ ► and ▲ ▼ buttons to navigate the various menus and submenus (see Figure 1).

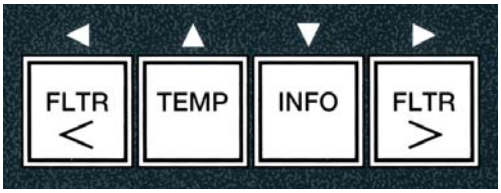


Figure 1

When programming, the left screen shows a menu or submenu item. The right screen is for data entry. Data is entered with alpha-numeric characters, scrolling through lists or by toggling between choices (see Figure 2).



Left Display Right Display
Figure 2

During programming if a button is not pushed within one minute, the computer returns to operation mode.

4.7.2 Filter, Temperature and Info Buttons

The **< FLTR** and **FLTR >** buttons (see Figure 1) are used to filter the left and right vats of a split vat fryer on demand, while the right **FLTR >** button is used to filter a full vat on demand. The **FLTR** buttons, if pressed once will display the amount of cook cycles remaining until a filtration prompt. When the **FLTR** button is pressed twice, the date and time of the last filter will be displayed. The **TEMP** button, if pressed once while the fryer is on, displays current vat temperature on both sides. If the **TEMP** button is pressed twice while the fryer is on, it shows the setpoint temperatures of the vats. If the fryer is off, the display shows the current versions of software. The **INFO** button (see Figure 1), if pressed once when the fryer is on, shows the recovery time for each vat from the last test. Recovery displays the time required for the fryer to raise the temperature of the oil 50°F (28°C) between 250°F (121°C) and 300°F (149°C). Maximum recovery time should not exceed 1:40 for electric or 2:25 for gas. If the **INFO** button is pressed and held for three seconds it shows information such as usage, filter statistics and last cook cycles (see page 4-38 for more details on the **INFO** button).

4.7.3 Cook Cycle and Selection Buttons

The ✓ ✘ buttons are dual-function buttons shared with the number **1** and **2** buttons. They are located directly below the LED displays (see Figure 3). Use these buttons to select or cancel functions. The ✘ button is used to back out of and quit submenus.

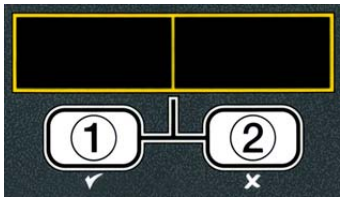


Figure 3

4.8 M2007 Menu Summary Tree

Reflected below are the major programming sections in the M2007 and the order in which submenu headings will be found under the sections in the Installation and Operation Manual.

Adding New Product Menu Items See section 4.10.2
Storing Product Menu Items in Product Buttons See section 4.10.3
Draining, Refilling, and Disposing of Oil See section 4.10.4

- Filter Menu 4.11
  - [Press and hold ◄ FLTR or FLTR ►]
  - Auto Filter
  - Maint Filter
  - Dispose
  - Drain to Pan
  - Fill Pot from Drain Pan
  - Fill Pot from Bulk
- Programming
  - Level 1 Program 4.12
    - [Press and hold TEMP and INFO buttons, 2 beeps, displays Level 1, enter 1234]
    - Product Selection 4.12.1
      - Name
      - Cook Time
      - Temp
      - Cook ID
      - Duty Time 1
      - Duty Time 2
      - Qual Tmr
      - AIF Disable
      - Assign Btn
    - AIF Clock 4.12.2
      - Disabled
      - Enabled
    - Deep Clean Mode 4.12.3
    - High-Limit Test 4.12.4
      - High-Limit Test 1
      - High-Limit Test 2
    - Fryer Setup 4.9
  - Level 2 Program (Manager Level) 4.13
    - [Press and hold TEMP and INFO buttons, 3 beeps, displays Level 2, enter 1234]
    - Prod Comp Sensitivity for product 4.13.1
    - E-Log Log of last 10 error codes 4.13.2
    - Passwords Change passwords 4.13.3
      - Setup [enter 1234]
      - Usage [enter 4321]
      - Level 1 [enter 1234]
      - Level 2 [enter 1234]
    - Alert Tone Volume and Tone 4.13.4
      - Volume 1-9
      - Tone 1-3
    - Filter After Sets number of cooks before filter prompt 4.13.5
    - Filter Time Sets amount of time between filter cycles 4.13.6
- Info Mode 4.14
  - [Press and hold INFO for 3 seconds, displays Info Mode]
  - Full/Split Vat Configuration
    - Filter Stats 4.14.1
    - Review Usage 4.14.2
    - Last Load 4.14.3

4.9 Fryer Setup Mode Programming

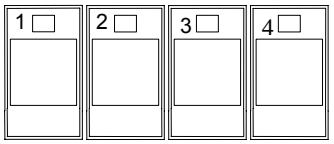
The computer, upon initial power up, when changing out a computer or accessed from Level 1, enters setup mode. These parameters need to be set to allow the auto filtration, logs and other functions to operate correctly. The setup sets the time, date, date format, language, fryer type, vat type, oil system type and the temperature scale from F° to C°. These settings should only be changed by a technician.

On initial power up the computer displays OFF.

1. Press either soft power button or with the computer OFF, enter Level 1 programming mode by pressing the **TEMP** and **INFO** buttons simultaneously until LEVEL 1 is displayed.

2. The computer displays FRYER SETUP if initially powering up the computer and/or ENTER CODE if programming through Level 1.

3. Enter 1234 (see Figure 4).



(1234)

Figure 4

If initially powering up the computer skip to step 6, otherwise if programming through Level 1 continue to the next step.

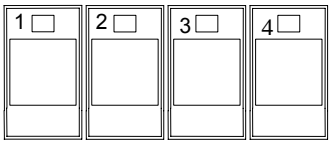
The computer displays LEVEL 1 PROGRAM for three seconds and sounds an alert.

The computer then displays PRODUCT SELECTION.

4. Press the ▼ button to scroll to FRYER SETUP. Press the ✓ (**1** YES) button (see Figure 7).

Computer displays ENTER CODE.

5. Enter 1234 (see Figure 5).



(1234)

Figure 5

Computer displays TIME FORMAT.

6. Use the ◄ and ► buttons (see Figure 6) to toggle between 24HR and 12HR.



Figure 6



Figure 7

7. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 7).

The computer displays ENTER TIME on the left and HH:MM on the right.

Example: 7:30 AM is entered 0730 if using the 12 hour format. 2:30 is entered 1430 if using 24 hour format.

8. Enter time in hours and minutes using the number buttons 0-9 (see Figure 8).



Figure 8

9. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 9).



Figure 9

The computer displays ENTER TIME on the left and AM on the right if 12 hours system is chosen.

10. Use the ◂ and ▸ buttons (see Figure 10) to toggle between AM and PM if the 12 hour format was chosen .



Figure 10



Figure 11

11. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 11).

The computer displays DATE FORMAT on the left and US on the right.

12. Use the ◂ and ▸ buttons (see Figure 12) to toggle between US and INTERNTL.



Figure 12



Figure 13

13. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 13).

The computer displays ENTER DATE on the left and MM-DD-YY OR DD-MM-YY on the right.

Example:
US Format – Mar. 15, 2007 is entered as 031507.
International Format – 15 Mar. 2007 is entered as 150307)

14. Enter the date using the number buttons 0-9 (see Figure 14).



Figure 14

15. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 15).



Figure 15

The computer displays LANGUAGE on the left and ENGLISH on the right.

16. Use the ◂ and ▸ buttons to scroll through the language menu (see Figure 16).



Figure 16

Current languages supported by the M2007 are: English, French, French Canadian, Spanish, Portuguese, German and Swedish.

17. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 17).



Figure 17

The computer displays FRYER TYPE on the left and ELEC on the right.

18. Use the ◂ and ▸ buttons (see Figure 18) to toggle between ELEC and GAS.



Figure 18

19. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 19).



Figure 19

The computer displays VAT TYPE on the left and SPLIT on the right.

20. Use the ◂ and ▸ buttons (see Figure 20) to toggle between SPLIT and FULL.



Figure 20

21. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 21).



Figure 21

The computer displays OIL SYSTEM on the left and JIB on the right.

22. Use the ◂ and ▸ buttons (see Figure 22) to toggle between JIB and BULK.



Figure 22

NOTE: A **JIB** system uses a disposable JIB (Jug in a Box). A **BULK** system has large storage oil tanks that are connected to the fryer that fills a reservoir.

23. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 23).



Figure 23

The computer displays TEMPERATURE on the left and F on the right.

24. Use the ◂ and ▸ buttons (see Figure 24) to toggle between F and C temperature scales.



Figure 24

NOTE: **F** is used for Fahrenheit, **C** is used for Celsius.

25. With the desired selection displayed, press the ✓ (**1** YES) button (see Figure 25).



Figure 25

The computer displays FRYER SETUP changing to OFF.

4.10 M2007 Common Tasks

Covered in this section are common tasks used in stores:

1. **Escaping out of a menu or sub-menu.**
2. **Adding new product items.**
3. **Storing menu items in product buttons.**
4. **Draining, disposing and refilling the vats.**

4.10.1 Escape Menu Items

To escape or back out of **MENUS** and **SUB-MENUS**, press the ✘ **(2)** button (Figure 26).



Figure 26

4.10.2 Adding New Product Items to the Menu

This function is used to add additional products to the computer menu.

To add a new product to the menu:

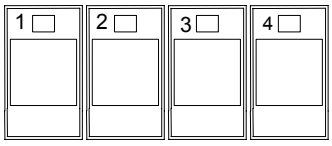
1. With the computer OFF, enter Level 1 programming mode by pressing the **TEMP** and **INFO** buttons simultaneously (see Figure 27) until LEVEL 1 is displayed.



Figure 27

The computer displays ENTER CODE and sounds an audible alert.

2. Enter **1234** (see Figure 28).



(1234)

Figure 28

The computer displays LEVEL 1 PROGRAM for three seconds.

The computer then displays PRODUCT SELECTION.

3. With PRODUCT SELECTION displayed, press the ✓ (**1** YES) button to select a menu item (see Figure 29).



Figure 29

Computer displays PRODUCT SELECTION for three seconds then displays SELECT PRODUCT.

4. With SELECT PRODUCT displayed on the left and FR FRIES displayed on the right use the ▸ button (see Figure 30) to advance through menu items until the right display reads the menu item to be modified or a numbered spot is displayed (ex. PROD 13).



Figure 30

5. Press the ✓ (**1 YES**) button to select the product to modify (see Figure 31).



Figure 31

The computer displays MODIFY alternating with YES NO.



Figure 32

6. Press the ✓ (**1 YES**) button to modify selection (see Figure 32) or the ✗ **(2 NO)** button to return to PRODUCT SELECTION.

If yes is chosen, left display shows NAME and the right display shows product name (ex. PROD 13. The right display will show a blinking cursor alternating with a blinking letter under the first character.

7. Using the number keys, enter the first letter of the new product (see Figure 33). When entering letters using the number keys use the following logic (ex. – To enter B, press the ABC key twice).



Figure 33

The full product name is limited to eight characters including spaces (ex. FR FRIES).

8. Press the ▶ button to advance the cursor to the next display space (see Figure 34). Use the #0 key to insert a space. The ◀ button can be used to move the cursor back.



Figure 34

For example, to enter "WINGS", press the #8 key two times until W appears in the display. Then use the ▶ button to advance the cursor to the next display space. Press the #3 key until I appears. Continue on until WINGS is spelled out on the display.

9. Once the name appears as it is to be saved, press the ▼ button (see Figure 35) to save the name and scroll to COOK TIME.



Figure 35

10. With COOK TIME displayed on the left and :00 displayed on the right use the number keys (see Figure 36) to enter the product cook time in minutes and seconds (ex. 3:10 as 310).



Figure 36

11. With the cook time entered, press the ▼ (**INFO**) button (see Figure 37) to save the COOK TIME and scroll to TEMP (cook temperature).



Figure 37

12. With TEMP displayed on the left and 32F displayed on the right use the number keys (see Figure 38) to enter the cook temperature for the product (ex. 335° as 335).



Figure 38

13. With the cook temperature entered, press the ▼ (**INFO**) button (see Figure 39) to save the cook temperature value and scroll to the COOK ID.



Figure 39

14. With COOK ID displayed on the left and a blinking P 13 displayed on the right, use the instructions in step eight to enter a four-letter name for the menu item. This is the shortened name that alternates with the cook time during a cook cycle.

15. With the correct cook ID abbreviation entered, press the ▼ (**INFO**) button (see Figure 40) to save the cook ID abbreviation and scroll to the DUTY TIME 1 (Shake Time), which is used to set the time in the cook cycle the product should be shaken.



Figure 40

16. With DUTY TIME1 displayed on the left and :00 displayed on the right use the number keys to enter the time in minutes and seconds for the first duty to be preformed (ex. shake the product after 30 seconds is entered as 30) (see Figure 41).



Figure 41

17. With DUTY TIME 1 (shake time) entered, press the ▼ (**INFO**) button (see Figure 42) to save duty time one and scroll to DUTY TIME 2. If a product called for a second duty to be preformed after a certain amount of time, it can be entered here. Use the instructions above to enter duty time two, otherwise press the ▼ (**INFO**) button (see Figure 42) to save the duty time and scroll to QUAL TMR (Quality Timer) which is used to set the hold time before the food is to be discarded.



Figure 42

18. With QUAL TMR displayed on the left and :00 displayed on the right use the number keys to enter the time in minutes and seconds for the product hold time (ex. 7:00 minutes as 700) (see Figure 43).



Figure 43

19. With QUAL TMR (hold time) entered, press the ▼ (**INFO**) button (see Figure 44) to save the quality time and scroll to AIF DISABLE



Figure 44

20. With AIF DISABLE displayed on the left and YES displayed on the right use the ◄ and ► buttons (see Figure 45) to toggle between YES and NO. This feature, if set to yes, disables the AIF (auto intermittent filtration) for the programmed product. This is used to prevent co-mingling of product-specific oils.



Figure 45

21. If the AIF DISABLE selection is set to NO press the ▼ (**INFO**) button (see Figure 46) to save the AIF disable selection and scroll to the ASSIGN BTN selection.



Figure 46

The computer displays ASSIGN BTN on the left and the chosen product on the right.

To assign the entered product to a button, follow instructions below.



Figure 47

22. With the chosen product displayed on the right, and ASSIGN BUTTON on the left, press and hold for three seconds a button between 1-0 to assign the product. The LED in the chosen product button will illuminate (see Figure 47). To unassign a product from a button, press and hold the button assigned to that product for three seconds. The LED no longer illuminates.

23. Once the button is assigned, press the ▼ (**INFO**) button (see Figure 48) to save the assigned button.



Figure 48

The computer displays NAME on the left with the product (ex. WINGS) on the right.

* Note: If additional programming, to add other products, is necessary necessary press the × **(2)** button (see Figure 50) once and then the ▶ button (see Figure 49) and return to step 4.



Figure 49

24. If no further programming is necessary, press the × **(2)** button (see Figure 50). The computer displays the SELECT PRODUCT option with the product (ex. FR FRIES) on the right screen. Press the × **(2)** button again (see Figure 50). Computer displays LEVEL 1 PROGRAM changing to the PRODUCT SELECTION prompt.



Figure 50

25. Press the × **(2)** button (see Figure 51) to quit and to return to OFF.



Figure 51

4.10.3 Storing Menu Items in Product Buttons

This function is used to store individual menu items to product buttons for one or two button cooking.

To store menu items to a specific button:

1. Perform steps 1-6 on pages 4-12 thru 4-13.

2. The computer displays NAME on the left and the selected product (ex. WINGS) on the right.

3. Press the ▲ button (see Figure 52) to scroll to the ASSIGN BTN option used to assign a menu item to a specific product button.



Figure 52

4. The computer displays ASSIGN BTN on the left and WINGS on the right.

5. With ASSIGN BTN displayed on the left and the chosen product (ex. WINGS) displayed on the right, press and hold for three seconds a button between 1-0 to assign the product. The LED in the chosen product button will illuminate (see Figure 53). To unassign a product from a button, press and hold the button assigned to that product for three seconds. The LED no longer illuminates.



Figure 53

6. Once the button is assigned, press the ▼ (**INFO**) button (see Figure 54) to save the assigned button.



Figure 54

The computer displays NAME on the left with the product (ex. WINGS) on the right.

7. If no further programming is necessary, press the **× (2)** button (see Figure 55) twice to return to LEVEL 1 PROGRAM changing to the PRODUCT SELECTION prompt.



Figure 55

8. Press the **× (2)** button again (see Figure 55) to quit and to return to OFF.

4.10.4 Draining and Refilling Vats, and Disposing of Oil

When cooking oil is exhausted, drain the oil into an appropriate container for transport to the disposal container. Frymaster recommends a McDonald's Shortening Disposal Unit (MSDU). **Do not drain deep clean (boil-out) solution into an MSDU**. **NOTE:** If using an MSDU built before January 2004 the filter pan cover must be removed to allow the unit to be positioned beneath the drain. To remove the cover, lift up on the front edge and pull it straight out of the cabinet. Refer to the documentation furnished with your disposal unit for specific operating instructions. If a shortening disposal unit is not available, allow the oil to cool to 100°F (38°C), then drain the oil into a **METAL** container with a capacity of FOUR gallons (15 liters) or larger to prevent oil from spilling.

4.10.4.1 Disposal for Non-Bulk Oil Systems

This option is used to dispose of old oil into either an MSDU or a **METAL** pot.

1. Remove the filter pan and position the MSDU or **METAL** container with a capacity of **FOUR** gallons (15 liters) or larger under the fryer to drain the oil.

2. With the computer OFF, press and hold the FLTR button (see Figure 56) of the corresponding vat for three seconds; a chirp sounds



Figure 56

The computer displays FILTER MENU for three seconds, changing to AUTO FILTER.

3. With AUTO FILTER displayed, press the ▼ (**INFO**) button (see Figure 57) to scroll to DISPOSE.



Figure 57

Computer displays DISPOSE.

4. Press the ✓ (**1** YES) button to continue (see Figure 58).



Figure 58

The computer display alternates between DISPOSE and YES NO.

5. To dispose press the ✓ (**1** YES) button to continue (see Figure 59).



Figure 59

⚠ WARNING
NEVER drain deep clean (boil-out) solution into an MSDU. Deep Clean (boil-out) solution can cause damage to an MSDU.

⚠ DANGER
When draining oil into a disposal unit, do not fill above the maximum fill line located on the container.

⚠ DANGER
Allow oil to cool to 100°F (38°C) before draining into an appropriate METAL container for disposal.

⚠ DANGER
When draining oil into an appropriate METAL container, make sure the container will hold at least FOUR gallons (15 liters) or more, otherwise hot liquid could overflow and cause injury.

The computer display alternates between IS DISPOSE UNIT IN PLACE and YES NO. If NO is selected, the computer displays INSERT DISPOSAL UNIT alternating with IS DISPOSE UNIT IN PLACE and YES NO.

6. With the MSDU or a **METAL** container with a capacity of **FOUR** gallons (15 liters) or larger is in place, press the ✓ (**1** YES) button to continue (see Figure 60).



Figure 60

The heating source is disabled, the drain valve opens and the computer displays DISPOSING for 20 seconds.

The drain valve remains open and the computer displays VAT EMPTY alternating with YES NO.



Figure 61

7. With the vat empty, press the ✓ (**1** YES) button to continue (see Figure 61).

The computer displays CLN VAT COMPLETE.

8. Clean the vat with a scrub brush and when complete press the ✓ (**1 YES**) button to continue (see Figure 62).



Figure 62

The drain valve closes and the vat is ready to be refilled with oil.

4.10.4.2 Refilling JIB Oil Systems

JIB (Jug In Box) oil systems use oil stored in boxed jugs inside the fryer cabinet.

If the oil system was set to JIB during initial setup, the computer displays MANUAL FILL POT.

1. Carefully pour oil into the pot until it reaches the low fill line in the fryer.

2. Press the ✓ (**1 YES**) button (see Figure 63) when vat is full.
The computer displays OFF.



Figure 63

4.10.4.3 Draining and Disposing Oil using Bulk Oil Systems

Bulk oil systems use pumps to move the oil from the fryer to holding tanks for fresh and exhausted oil. Additional plumbing is used to connect the bulk oil systems to the fryers.

1. With the computer OFF, press and hold the FLTR button of the corresponding vat for three seconds (see Figure 64).



Figure 64

Computer displays FLTR MENU for three seconds changing to AUTO FILTER.

2. Press the ▼ (**INFO**) button (see Figure 65) and scroll to DISPOSE.



Figure 65

3. With DISPOSE displayed, press the ✓ (**1 YES**) button to continue (see Figure 66).



Figure 66

The computer display alternates between DISPOSE and YES NO.

If CHK PAN is displayed, remove and replace the filter pan, ensuring that the pan is seated firmly into the fryer.



Figure 67

4. To dispose press the ✓ (**1 YES**) button to continue (see Figure 67).

The drain valve remains open and the computer displays VAT EMPTY alternating with YES NO.



Figure 68

5. When the vat is empty, press the ✓ (**1 YES**) button to continue (see Figure 68).

The computer displays CLN VAT COMPLETE.

6. Clean the vat with a scrub brush and when complete press the ✓ (**1 YES**) button to continue (see Figure 69) or if waste tank is full, the message clears and the computer displays **OFF**.



Figure 69

The computer displays **ENGAGE DISPOSE SWITCH**.

7. Switch the bulk oil system switch to dispose (see Figure 70).

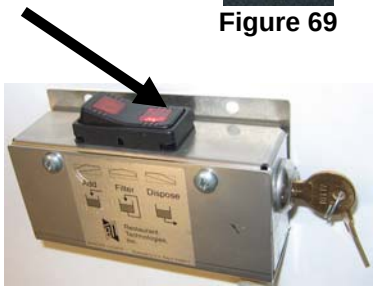


Figure 70

If the bulk oil system waste tank is full, the computer displays **RTI TANK FULL**. Call the bulk oil waste provider.

8. Press the ✓ **(1)** button to start disposal (see Figure 71).



Figure 71

The computer displays **PAN TO WASTE**. The pump transfers the waste oil from the pan to the bulk oil waste tanks.

The computer displays **PAN EMPTY** when finished.



Figure 72

9. Press the ✖ **(2)** button (see Figure 72) to run the pump again if the pan has oil remaining; otherwise continue to the next step.

10. Once the pan is empty, press the ✓ **(1)** button (see Figure 73) to continue to Section 4.10.4.4.



Figure 73

The vat is ready to be refilled with oil.

The computer displays **DISENGAGE DISPOSE SWITCH**.



Figure 74

11. Switch off the bulk oil system using the door switch to the center position (see Figure 74).

12. Press the ✓ **(1)** button to disengage disposal switch (see Figure 75).



Figure 75

4.10.4.4 Refilling the Vat from Bulk Oil Systems after Disposal

The computer displays FILL POT FROM BULK.

The bulk oil refill pump uses a momentary switch. It only pumps when the switch is depressed.

1. Press and hold the ✓ (**1** YES) button to refill the vat until the oil reaches the fill line (see Figure 76).
2. With the vat full, release the ✓ (**1** YES) button.
3. Press the **× (2)** button, when the vat is full, to close the fill valve (see Figure 77).



Figure 76



Figure 77

The computer displays OFF.

4.11 Filter Menu

The filter menu selections are used for filtering, draining, filling and disposing.

4.11.1 Accessing the Filter Menu

1. Press and hold the filter button for the selected vat for three seconds (see Figure 78).



Figure 78

Computer displays FILTER MENU for three seconds, changing to AUTO FILTER.

2. Press the ▲ and ▼ buttons (see Figure 79) to scroll between:

a. AUTO FILTER See pg. 5-2
b. MAINT FILTER See pg. 5-8
c. DISPOSE See pg. 4-16
d. DRAIN TO PAN See pg. 4-21
e. FILL POT FROM DRAIN PAN See pg. 4-22
f. FILL POT FROM BULK See pg. 4-22

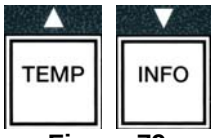


Figure 79

The first two menu items: **AUTO FILTER** and **MANTAINENCE (MANUAL) FILTER** are covered in Chapter 5. The other menu items are covered on the following pages.

The **DRAIN TO PAN** and **FILL POT FROM DRAIN PAN** functions are used primarily for diagnostic purposes. They are used when oil is to be drained to the pan or returned to the frypot.

4.11.2 Drain to Pan

The drain to pan function drains the oil from the frypot to the filter pan.

With the computer OFF

1. Press and hold the filter button for the selected vat to drain for three seconds (see Figure 80).



Figure 80

Computer displays FILTER MENU for three seconds, changing to AUTO FILTER.

2. Use the ▲ and ▼ buttons (see Figure 81) to scroll to DRAIN TO PAN.

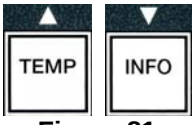


Figure 81

3. With DRAIN TO PAN displayed, press the ✓ **(1)** to continue (see Figure 82).



Figure 82

⚠ DANGER

Do not drain more than one frypot at a time into the built-in filtration unit to avoid overflow and spillage of hot oil that may cause severe burns, slipping and falling.

Computer displays DRAIN TO PAN alternating with YES NO.

4. Press the ✓ (**1** YES) to continue drain to pan (see Figure 83).



Figure 83

The heating source is disabled and the system checks that the pan is in place. If no pan is detected, the computer displays CHK PAN until the pan is detected.

With the pan detected, the drain valve opens. The computer displays DRAINING for 20 seconds. The drain valve remains open.

The computer displays VAT EMPTY, alternating with YES NO.

5. Press the ✓ (**1** YES) button if the vat is empty to continue (see Figure 84).



Figure 84

The drain valve closes and the computer returns to the FILTER MENU prompt for three seconds, changing to AUTO FILTER.

6. Press the × **(2)** button (see Figure 85) to quit and to return to OFF.



Figure 85

4.11.3 Fill Pot from Drain Pan

Fill pot from drain pan selection is used to refill the frypot from the filter pan.

With the computer OFF.

1. Press and hold the filter button for the vat to be refilled for three seconds (see Figure 86).



Figure 86

Computer displays FILTER MENU for three seconds, changing to AUTO FILTER.

2. Use the ▲ and ▼ buttons to scroll to FILL POT FROM DRAIN PAN (see Figure 87) .

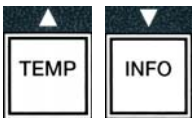


Figure 87

3. With FILL POT FROM DRAIN PAN displayed, press the ✓ (**1** YES) to continue (see Figure 88).



Figure 88

Computer displays FILL POT FROM DRAIN PAN alternating with YES NO.

4. Press the ✓ (**1** YES) button to continue (see Figure 89).



Figure 89

System checks that the drain valve is closed. The return valve opens and the filter pump refills the vat.

Computer displays FILL VAT while refilling.

When the vat is full, the return valve is closed. The pump shuts off. The system checks the oil level, topping off if necessary.

If the oil temperature is below setpoint the computer displays LOW TEMP.

Once fryer reaches setpoint and the computer display changes to the product or dashed lines, the fryer is ready for use.

4.11.4 Fill Pot from Bulk

Fill pot from bulk selection is used when filling the frypot from a bulk oil system.

Computer displays OFF.

1. Press and hold the filter button for the vat to be refilled for three seconds (see Figure 90).



Figure 90

Computer displays FILTER MENU for three seconds, changing to AUTO FILTER.

2. Use the ▲ and ▼ buttons to scroll to FILL POT FROM BULK (see Figure 91).

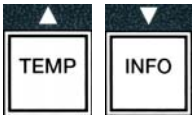


Figure 91

3. With FILL POT FROM BULK displayed, press the ✓ (1 YES) button to continue (see Figure 92).



Figure 92

Computer displays FILL POT FROM BULK, alternating with YES NO.

4. Press the ✓ (YES) button to continue (see Figure 93).



Figure 93

The system verifies the drain is closed. The bulk oil inlet valve opens and the bulk pump is energized. The bulk oil refill pump uses a momentary switch. It only pumps as long as the switch is depressed.

Computer displays FILL POT FROM BULK.

5. Press and hold the ✓ (YES) button (see Figure 94). To refill using the bulk oil refill. When the vat is filled to the lower fill line, release the ✓ (1 YES) button.



Figure 94

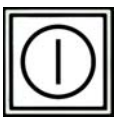
6. Press the × (2) button to exit (see Figure 95).



Figure 95

The computer displays OFF.

7. Press the soft power button to begin heating the oil (see Figure 96).


Figure 96

If the oil temperature is below setpoint, the computer displays LOW TEMP.

The system then checks the oil level, topping off if necessary.

When the fryer reaches setpoint and the computer display changes to the product or dashed lines, the fryer is ready for use.

4.12 Programming Level One

Level one programming is used to enter new products, control when AIF (auto intermittent filtration) is disallowed, and perform deep clean (boil- out) and high-limit tests.

To enter Level 1 programming mode:

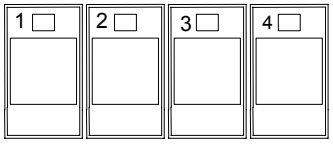


Figure 97

1. With the computer OFF, press the **TEMP** and **INFO** buttons simultaneously (see Figure 97) for **THREE** seconds until LEVEL 1 is displayed; a chirp sounds.

The computer displays ENTER CODE and sounds an alert.

2. Enter **1234** (see Figure 98).



(1234)

Figure 98

The computer displays LEVEL 1 PROGRAM for three seconds changing to PRODUCT SELECTION.

3. Press the ▲ and ▼ buttons (see Figure 99) to scroll between:



Figure 99

a. PRODUCT SELECTION See pg. 4-24
b. AIF CLOCK See pg. 4-25
c. DEEP CLEAN MODE See pg. 4-27
d. HIGH LIMIT TEST See pg. 4-30
e. FRYER SETUP See pg. 4-9

4. With the desired selection displayed, press the ✓ (1 YES) button to select chosen menu item (see Figure 100).



Figure 100

4.12.1 PRODUCT SELECTION

1. To add or edit products in the product selection mode see pg. 4-12 **ADDING A NEW PRODUCT ITEM TO THE MENU** Steps 4-30.

The submenus under product selection are:

a. NAME – Enter full product name limit eight characters (FR FRIES).
b. COOK TIME – Enter cook time (ex. 3:30 as 0330).
c. TEMP – Enter cook temperature. (ex. 335° as 335).
d. COOK ID – Enter four (4) letter product ID (ex. CPSY).
e. QUAL TMR – Enter quality time for hold time (ex. 7:00).
f. DUTY TIME 1 – Enter the seconds into the cook cycle that the first duty alarm sounds. (ex. 30 seconds- to shake fries).
g. DUTY TIME 2 – Enter the seconds into the cook cycle that a second duty alarm sounds.
h. AIF DISABLE – Enter YES if AIF is to be disabled for specific products.
i. ASSIGN BTN – Assigns menu items to a specific button for simplified cooking.

NOTE:
Press the ▲ and ▼ buttons to scroll.

Press the ◀ and ▶ buttons to move between positions within the selections.

When entering letters using the number keys use the following logic (ex. – To enter B, press the ABC key twice).
When entering numbers, press the corresponding button using the 0-9 keys.

Press the ▲ and ▼ buttons to accept input and move to the next or previous menu item.

2. Press the **✖ (2)** button once to return to PRODUCT SELECTION prompt (see Figure 101).



Figure 101

3. Press the **✖ (2)** button (see Figure 102) to quit and to return to OFF.



Figure 102

4.12.2 AIF CLOCK

The AIF Clock mode allows programming of times to lock out the AIF (auto intermittent filtration) prompt. This is useful for busy times of the day, like the noon rush.

1. Perform steps 1-3 on page 4-24.
2. Use the ▼ (**INFO**) button to scroll AIF CLOCK (see Figure 103).



Figure 103

3. Press the ✓ (**1 YES**) button to continue (see Figure 104).



Figure 104

The computer displays AIF CLOCK on the left and DISABLED on the right.

4. Use the ◀ and ▶ buttons to toggle between: (see Figure 105).
   a. DISABLED
   b. ENABLED



Figure 105

Set this function to ENABLED if there are times in which the AIF (auto intermittent filtration) feature is disallowed (ex. noon rush).

5. With ENABLED displayed, press the ✓ (**1 YES**) button (see Figure 106).

*Skip to step 12 if DISABLED is chosen.



Figure 106

6. Use the ▲ and ▼ buttons (see Figure 107) to scroll between M-F 1 thru SUN 4. (ex. On Monday – Friday no filtering is desired during a lunch rush from 12:00 AM until 1:30 PM. On the computer scroll to M-F 1 12:00 AM.

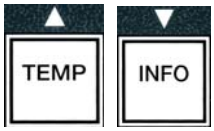


Figure 107

7. Using the number keys enter the start time when AIF should be suspended (see Figure 108).



Figure 108

8. Press the ▸ button to toggle from AM to PM (see Figure 109).



Figure 109

9. Press the ▼ (**INFO**) button (see Figure 110). The computer displays `000 DUR`. This is the amount of time the AIF is to remain suspended.



Figure 110

10. Use the number keys (see Figure 111) to enter a time between 0 and 999 minutes (ex. 1½ hours is entered as 90 minutes). Enter `90` for this example. The computer displays `090 DUR`. Four different time periods to suspend filtration are available M-F 1-4, Sat 1-4 and Sun 1-4.



Figure 111

11. Press the ▼ (**INFO**) button to accept time and move to the next time period (see Figure 112).



Figure 112

12. When finished, press the ✖ button (see Figure 113) once to exit and return to `PRODUCT SELECTION` display. Skip to step 14.



Figure 113

13. If `DISABLED` is chosen in step three, the computer displays `DISABLED` and sounds an alert for three seconds.

14. Press the ✓ (**1 YES**) button to accept `DISABLED` selection (see Figure 114).



Figure 114

Computer displays `PRODUCT SELECTION`.

15. Press the ✖ **(2)** button (see Figure 115) to quit and to return to `OFF`.



Figure 115

4.12.3 DEEP CLEAN MODE (BOIL-OUT)

The deep clean mode is used to remove carbonized oil from the frypot.

NOTE: Refer to Kay Chemical "Fryer Deep Clean Procedure" instructions to clean the LOV™ fryer.

1. Perform steps 1-3 on page 4-24.

The computer displays DEEP CLEAN.

2. Press the ✓ (1 YES) button (see Figure 116).



Figure 116

The computer displays DEEP CLEAN, alternating with YES NO.

3. Press the ✓ (1 YES) button (see Figure 117).



Figure 117

4. **Full Vat**: Computer displays OIL RMVD, alternating with YES. NO.

   Split Vat: Computer displays DEEP CLEAN. alternating with LEFT, RGH. Press the ✓ (1) (see Figure 118) or ✕ (2) (see Figure 119) button under the split vat to be cleaned. The computer displays OIL RMVD, alternating with YES NO.



Figure 118



Figure 119

5. **Empty fry vat**: Press the ✓ (1 YES) button (see Figure 120). Computer displays Oil Discarded, changing to Yes No.
   Oil-filled Fry Vat: Press the ✕ (2 NO) button (see Figure 121). Computer displays Drain Oil.



Figure 120



Figure 121

6. **Empty Fry Vat**: Press the ✓ (1 YES) button (see Figure 120). Skip to 9.
   Oil-filled Fry Vat: Press the ✓ (1 YES) button.

The computer displays DISPOSE, alternating with YES NO.
Bulk Oil System: Ensure a complete and clean filter pan is in place.
JIB Oil System: Ensure an MSDU or suitable metal container is in place under drain.

7. Press the ✓ (1 YES) button (see Figure 122).

   JIB Oil System: Computer displays IS DISPOSAL UNIT IN PLACE, alternating with YES NO. Press the ✓ (1 YES) button to dispose the oil (see Figure 123).

   Bulk* Oil System: Computer displays DISPOSING.

   *If CHK PAN is displayed, remove and replace the filter pan.



Figure 122



Figure 123

⚠ DANGER
When draining oil into a disposal unit, do not fill above the maximum fill line located on the container.

⚠ DANGER
Allow oil to cool to 100°F (38°C) before draining into an appropriate METAL container for disposal.

⚠ DANGER
When draining oil into an appropriate MSDU or METAL container, make sure the container will hold at least FOUR gallons (15 liters) or more. Otherwise oil could overflow and can cause injury.

The drain valve opens and the oil is drained into the MSDU for JIB systems or the filter pan for bulk system. The computer displays DISPOSING.

Bulk or JIB System: The drain valve remains open and the computer displays VAT EMPTY. alternating with YES NO.

8. With the vat empty, press the ✓ (**1** YES) button (see Figure 124).



Figure 124

The computer displays OIL DISCARDED, alternating with YES NO.

9. **JIB system:** Press the ✓ (**1** YES) button (see Figure 125). Discarded oil is in MSDU. Skip to step 17.



Figure 125

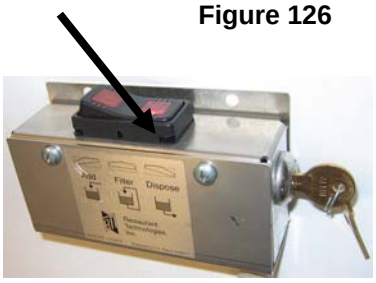
Bulk system: Press the ✖ (**2** NO) button (see Figure 126). Discarded oil is in the filter pan.



Figure 126

Referred from Step 6: Press the ✓ (**1** YES) button. Skip to 17.

Bulk System: The computer displays ENGAGE DISPOSE SWITCH*.


Figure 127

10. **Bulk System**: Switch the bulk oil system switch to dispose (see Figure 127).

* If the bulk oil system waste tank is full, the computer displays RTI TANK FULL. Call the bulk oil waste provider.

11. **Bulk System**: Press the ✓ **(1)** button (see Figure 128).



Figure 128

The computer displays PAN TO WASTE. The pump transfers the waste oil from the pan to the bulk oil waste tanks.

The computer displays PAN EMPTY.

12. **Bulk System**: Pull the filter pan out and ensure the filter pan is empty.

13. **Bulk System**: Press the ✖ **(2)** button (see Figure 129) to run the pump again if the pan has oil remaining. The computer will display PAN TO WASTE.



Figure 129

14. **Bulk System**: With the pan empty, press the ✓ **(1)** button (see Figure 130).



Figure 130

15. **Bulk System**: The computer displays DISENGAGE DISPOSE SWITCH. Place the RTI door switch in the center position (see Figure 131).


Figure 131

16. **Bulk System**: Press the ✓ **(1)** button to disengage disposal switch (see Figure 132).



Figure 132

17. **Bulk or JIB System:** The drain valve closes and the computer displays SOLUTION ADDED, alternating with YES NO. Fill frypot to be cleaned with water and cleaning solution mix. Referring to maintenance requirement card and Kay Chemical provided instructions "Fryer Deep Clean Procedure" for McDonald's deep clean (boil-out) procedure.

18. **Bulk or JIB System:** Press the ✓ (**1** YES) button (see Figure 133).



Figure 133

19. **Bulk or JIB System:** The computer displays START CLEAN, alternating with YES NO. Press the ✓ (**1** YES) button (see Figure 134) to continue and start the cleaning procedure. The vat heats to 195° F (91° C) for one hour.



Figure 134

The computer displays DEEP CLEAN with a countdown timer on the display.

After one hour the heater shuts off and the computer displays CLEAN DONE with an alarm.

20. **Bulk or JIB System:** Press the ✓ (**1** YES) button (see Figure 135) to silence the alarm.



Figure 135

21. **Bulk or JIB System:** The computer displays REMOVE SOLUTION FROM VAT with an alarm. Press the ✓ (**1** YES) button to silence the alarm.



Figure 136

⚠ DANGER

Allow deep-clean (boil-out) solution to cool to 100°F (38°C) before disposal, otherwise hot liquid can cause injury.

NOTE: Refer to Kay Chemical provided instructions "Fryer Deep Clean Procedure" for instructions to remove cleaning solution.

22. **Bulk or JIB System:** Remove solution following Kay Chemical instructions. Remove the filter pan and remove crumb basket, hold-down ring, filter media and screen. Replace empty filter pan in fryer.

23. **Bulk or JIB System:** The computer displays VAT EMPTY alternating with YES NO. With the vat empty, press the ✓ (1 YES) button (see Figure 137).



Figure 137

24. **Bulk or JIB System:** The computer displays SCRUB COMPLETE, alternating with YES NO. Press the ✓ (1 YES) button (see Figure 138).



Figure 138

25. **Bulk or JIB System:** The computer displays DISPOSING. The drain opens to drain the small amount of residual solution left in the vat. Rinse excess solution from vat.

26. **Bulk or JIB System:** The computer displays RINSE COMPLETE, alternating with YES NO. Press the ✓ (1 YES) button (see Figure 139) to continue when the vat is completely rinsed.



Figure 139

27. **Bulk or JIB System:** The computer displays VAT AND PAN DRY, alternating with YES NO. Ensure the vat and pan are completely dry.

28. **Bulk or JIB System:** Press the ✓ (1 YES) button (see Figure 140) to continue when the vat and filter pan are dry.



Figure 140

29. **Bulk or JIB System:** The drain valve closes and the computer displays LEVEL 1 PROGRAM. Press the × (2) button (see Figure 141) to quit and to return to OFF.



Figure 141

4.12.4 HIGH-LIMIT TEST MODE

The high-limit test mode is used to test high-limit test one at 410°F (210°C) and the physical high-limit test with high-limit test two. Shut the fryer off and call for service immediately if the temperature reaches 460°F (238°C) without the second high-limit tripping and the computer displays HI-2 BAD with an alert tone during testing. The high-limit test will destroy the oil. It should only be performed with old oil.

The test is cancelled at any time by turning the fryer off. When the fryer is turned back on, it returns to the operating mode and displays the product.

1. Perform steps 1-3 on page 4-24.

Computer displays HIGH LIMIT TEST.

2. Press the ✓ (1 YES) button to continue the high-limit test (see Figure 142).



Figure 142

The computer displays HI-LIMIT alternating with YES NO.

3. Press the ✓ (1 YES) button to continue the test (see Figure 143).



Figure 143

The computer displays START alternating with HI-1.



Figure 144

4. Press and hold the ✓ (**1** YES) button to initiate the first high-limit test [410°F (210°C)] (see Figure 144).

The vat begins to heat. The computer displays the actual vat temperature during the test. When the temperature reaches 410°F ± 10° F (210°C ± 12°C), the high-limit should trip. **NOTE:** In computers used in the European Union (those with the CE mark), the temperature is 395°F (202°C).

The computer displays HOT HI-1 alternating with the actual temperature (ex. 410F).

5. Release the ✓ (**1**) button. The HI-1 test is complete.

The vat stops heating and the computer displays the HOT HI-1 alternating with the actual temperature (ex. 410F) until the temperature cools below 400°F (204°C).

When the temperature cools below 400°F (204°C), the display changes to START alternating with HI-1.



Figure 145

6. Press the ▼ (**INFO**) button (see Figure 145).

The computer displays START alternating with HI-2.



Figure 146

7. Press and hold the ✓ (**1** YES) button to initiate the second high-limit test (see Figure 146).

The vat begins to heat. The computer displays the actual vat temperature during the test until the high-limit opens. Generally this happens once the temperature reaches 410°F to 445°F (210°C to 229°C) for non-CE high limits and 392°F to 428°F (200°C to 220°C) for CE high limits. If the high-limit fails, the computer displays HI 2 BAD. If this happens, turn the fryer off and call for service immediately.

The computer displays HI-2 alternating with the actual temperature (ex. 430F).

8. Release the ✓ (**1** YES) button.

The vat stops heating and the computer displays the HI-2 alternating with the actual temperature (ex. 430F) until the temperature cools below 400°F (204°C).

Once the temperature cools below 400°F (204°C) the display changes to START alternating with HI-2.



Figure 147

9. Press the ✖ **(2)** button once to exit the high-limit test (see Figure 147).

The computer displays OFF.

10. Follow the procedures on page 4-16 to dispose of the oil.

4.13 Programming Level Two

To enter Level two programming mode:

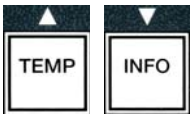
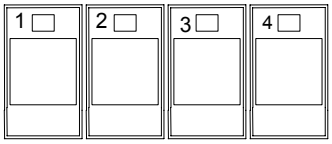


Figure 148

1. With the computer **OFF** press the **TEMP** and **INFO** buttons (see Figure 148) simultaneously for 10 seconds until LEVEL 2 is displayed; a third chirp sounds.

The computer displays ENTER CODE and sounds an alert.

2. Enter **1234** (see Figure 149).



(1234)
Figure 149

The computer displays LEVEL 2 PROGRAM for three seconds changing to PRODUCT COMP.

3. Press the ▲ and ▼ buttons to scroll between:
   a. PROD COMP See pg. 4-32
   b. E-LOG See pg. 4-33
   c. PASSWORD See pg. 4-34
   d. ALERT TONE See pg. 4-35
   e. FLTR AFTR See pg. 4-36
   f. FLTR TIME See pg. 4-37

NOTE:
Use the ◄ and ► buttons to move between positions within the selections.
When entering numbers, press the corresponding button using the 0-9 keys.

Press the ▲ and ▼ buttons to accept input and move to the next or previous menu item.

4. With the desired selection displayed press the ✓ (1 YES) button (see Figure 151).



Figure 150

4.13.1 PRODUCT COMP MODE

The product comp mode allows the product compensation (sensitivity) to be changed. Some menu items may need an adjustment, depending on their cooking characteristics. **Use caution when changing the product compensation, as it could have an adverse affect on the products cooking cycles.** By default the product compensation is set to four.

1. Perform steps 1-3 on page 4-32.

Computer displays PROD COMP.

2. With PROD COMP displayed press the ✓ (1 YES) button (see Figure 151).



Figure 151

Computer displays SELECT PRODUCT.

3. Use the ◄ and ► to scroll through the product list (see Figure 152).



Figure 152

The computer displays the product selected.



Figure 153

4. With a product selected, press the ✓ (**1 YES**) button to select a product (see Figure 153.

The computer displays MODIFY alternating with YES NO.



Figure 154

5. Press the ✓ (**1 YES**) button (see Figure 154) to continue or the **× (2)** button to return to PRODUCT SELECTION.

Computer displays LOAD COMP on left side with 4 or some other numeral on the right. This is the sensitivity setting recommended for this product.

NOTE: It is highly recommended NOT to adjust this setting, as it could have an adverse affect on the product.

6. If changing this setting, enter a number between 0-9.

7. Press the ▼ (**INFO**) button to accept selection (see Figure 155).



Figure 155

8. Press the **× (2)** button (see Figure 156) three times to exit.



Figure 156

The computer displays OFF.

4.13.2 E-LOG MODE

The E-LOG mode is used to view the ten most recent error codes encountered on the fryer. These codes are displayed from 1-10 with the most recent displayed first. The time, date and error code are displayed.

1. Perform steps 1-3 on page 4-32.

Computer displays E-LOG.



Figure 157

2. Press the ✓ (**1 YES**) button to accept selection (see Figure 157).

3. Use the ▲ and ▼ buttons (see Figure 158) to scroll through the ten most recent error codes.

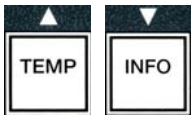


Figure 158

If no errors exist, the computer displays NO ERRORS. Errors are displayed by error code, time and date. An error code followed by "L" indicates left side of a split vat and "R" indicates right side

of a split vat or full vat where the error occurred (example - E06R0 11:30 12/07/07).

Error Codes:
E01 - Right Remove Discard
E02 - Left Remove Discard
E03 - Probe Failure - Call Technician
E04 - Hi 2 Bad - Call Technician
E05 - Hot Hi 1 - Call Technician
E06 - Ignition Failure - Call Technician

4. Press the **× (2)** button (see Figure 159) two times to exit.



Figure 159

The computer displays OFF.

4.13.3 PASSWORD MODE

The password mode allows a restaurant manager to change passwords for various modes and levels.

1. Perform steps 1-3 on page 4-32.

Computer displays PASSWORD.

2. Press the ✓ (**1** YES) button to accept selection (see Figure 160).



Figure 160

Computer displays PASSWORD SETUP.

3. Press the ✓ (**1** YES) button to accept selection (see Figure 161).



Figure 161

Computer displays FRYER SETUP.

4. Press the ▲ and ▼ buttons (see Figure 162) to scroll between:
   a. FRYER SETUP – Selects password to enter FRYER SETUP mode. (Default is 1234)
   b. USAGE – Selects password to enter USAGE mode to reset usage statistics. (Default is 4321)
   c. LEVEL 1 – Selects password to enter LEVEL 1 mode. (Default is 1234)
   d. LEVEL 2 – Selects password to enter LEVEL 2 mode. (Default is 1234)



Figure 162

5. Press the ✓ (**1** YES) button to accept selection (see Figure 163).



Figure 163

The computer displays FRYER SETUP on the left and 1234 on the right or the current password.

6. Using the 0-9 keys enter a new password or reenter the existing password to confirm (see Figure 164).



Figure 164

The computer displays **FRYER SETUP** on the left. The right side is blank.

7. Repeat steps 4-6 to change or confirm fryer setup, usage, level one and level two passwords.

8. Press the **× (2)** button (see Figure 165) once to return to product **LEVEL 2 PROGRAM** prompt.



Figure 165

9. Press the **× (2)** button again (see Figure 166) to exit.



Figure 166

The computer displays **OFF**.

4.13.4 ALERT TONE MODE

The alert tone mode allows a manager to adjust the volume to nine levels and the tone is adjustable to three frequencies. One of three audio frequencies may be chosen to distinguish fryers in kitchens with multiple fryers.

1. Perform steps 1-3 on page 4-32.

Computer displays **ALERT TONE**.



Figure 167

2. With the desired selection displayed, press the ✓ (**1 YES**) button (see Figure 167).

Computer displays **VOLUME 1-9**.



Figure 168

3. With the desired selection displayed, press the ✓ (**1 YES**) button (see Figure 168).

The computer displays **VOLUME 1-9** on the left and **9** on the right.

4. Use the number keys to set volume level (see Figure 169). Select from nine levels of volume with 0 being off, 1 the softest and 9 the loudest.



Figure 169

5. Use the ▲ and ▼ buttons (see Figure 170) to scroll to **TONE 1-3**.

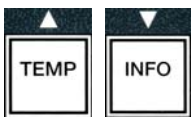


Figure 170

Computer displays **TONE 1-3**.



Figure 171

6. With the desired selection displayed, press the ✓ (**1 YES**) button (see Figure 171).

The computer displays **TONE 1-3** on the left and **1** on the right.

7. Use the number keys, to set the tone frequency (see Figure 172). Select from three different frequencies.



Figure 172

8. Press the **× (2)** button (see Figure 173) to return to product LEVEL 2 PROGRAM prompt.



Figure 173

9. Press the **× (2)** button again (see Figure 174) to exit.

The computer displays OFF.



Figure 174

Note: The AIF filtration mode uses two measures before prompting to filter. One checks for cook cycles and the other checks for time.

4.13.5 FILTER AFTER

The FLTR AFTR option is used to set the amount of cooking cycles which passes before the filtration prompt is displayed.

1. Perform steps 1-3 on page 4-32.

Scroll to FLTR AFTR.



Figure 175

2. With FLTR AFTR displayed, press the ✓ (**1 YES**) button (see Figure 175).

The computer displays FLTR AFTR on the left and 0 on the right.

3. Use the number keys (see Figure 176) from 0 to 9 to enter the number of cook cycles before prompting to filter (ex. after every 12 cycles enter as 12).



Figure 176

The computer displays FLTR AFTR on the left and 12 on the right.

4. With the desired selection displayed, press the ▼ (**INFO**) button (see Figure 177).



Figure 177

5. Press the **× (2)** button (see Figure 178) to exit.

The computer displays OFF.



Figure 178

4.13.6 FILTER TIME

The FLTR TIME option is used to set the amount of time which passes before the filtration prompt is displayed. This option is useful in lower volume stores, where filtration is desired more often than the amount the cook cycles would generate.

1. Perform steps 1-3 on page 4-32.

Scroll to FLTR TIME.



Figure 179

2. With FLTR TIME displayed, press the ✓ (**1 YES**) button (see Figure 179).

The computer displays FLTR TIME on the left and :00 on the right.

3. Use the number keys from 0 to 9 to enter the amount of time between filter prompts (ex. after every 2:00 hours enter as 200) (see Figure 180).



Figure 180

The computer displays FLTR TIME on the left and 2:00 on the right.

4. With the desired selection displayed, press the ▼ (**INFO**) button (see Figure 181).



Figure 181

5. Press the ✖ **(2)** button (see Figure 182) to exit.



Figure 182

The computer displays OFF.

4.14 INFO Mode

The **INFO** button is used to gather information as well as navigate menus. The **INFO** button, if pressed once, shows the recovery time for each vat from the last test. Recovery displays the time required for the fryer to raise the temperature of the oil 50°F (28°C) between 250°F (121°C) and 300°F (149°C).

Press the **INFO** button for three seconds and it will show usage, filter statistics and last cook cycles.

To enter **INFO** mode:

1. Press the ▼ (**INFO**) button for three seconds (see Figure 183).



Figure 183

The computer displays INFO MODE for three seconds changing to FILTER STATS.

2. Press the ▲ and ▼ buttons to scroll between:

FULL VAT CONFIGURATION
- a. FILTER STATS See pg. 4-38
- b. REVIEW USAGE See pg. 4-39
- c. LAST LOAD See pg. 4-41

SPLIT VAT CONFIGURATION
- a. FILTER STATS See pg. 4-38
- b. REVIEW USAGE See pg. 4-39
- c. LAST LOAD L See pg. 4-41
- d. LAST LOAD R See pg. 4-41

NOTE:
Use the ◄ and ► buttons to move between days within the selections.

Press the ▲ and ▼ buttons to move to other menu items.

3. With the desired selection displayed, press the ✓ (1 YES) button to select chosen menu item (see Figure 184).



Figure 184

4.14.1 FILTER STATS MODE

The filter stats mode is used to review information related to the filtering process such as the number of times the vat is filtered during a given day, the number of times filtering was skipped and the average number of cook cycles per filter prompt.

1. Perform steps 1-3 on pages 4-38.

The computer displays FILTER STATS.

2. With the desired selection displayed, press the ✓ (1 YES) button (see Figure 185).



Figure 185

The computer displays current day on the left side and current date on the right side.

3. Use the ◄ and ► buttons to scroll records; starting at the current day and going back one week (see Figure 186).



Figure 186

4. Press the ▲ and ▼ buttons (see Figure 187) to scroll between:

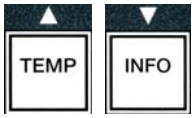


Figure 187

FULL VAT CONFIGURATION

a. DAY (TUE). DATE (07/03/07) – Current day and date.
b. FILTERED # DAY. – Number of times vat filtered and day.
c. FLT BPSD # DAY. – Number of times filter was bypassed and day.
d. FLT AVG DAY. – Average number of cook cycles per filter and day.

SPLIT VAT CONFIGURATION

a. DAY (WED). DATE (03/20/07) – Current day and date.
b. L FILTERED # DAY – Number of times left vat filtered and day.
c. L FLT BPSD # DAY. – Number of times left vat filter was bypassed and day.
d. L FLT AVG DAY. – Average number of cook cycles per filter/left vat and day.
e. R FILTERED # DAY. – Number of times right vat filtered and day.
f. R FLT BPSD # DAY. – Number of times right vat filter was bypassed and day.
g. R FLT AVG DAY. – Average number of cook cycles per filter/right vat and day.

5. Press the × **(2)** button (see Figure 188) to return to FILTER STATS prompt.



Figure 188

6. Press the × **(2)** button (see Figure 189) again to quit.



Figure 189

The computer displays OFF.

4.14.2 REVIEW USAGE MODE

The review usage is used to review historical information for the fryer such as the last date the usage tracking was reset, the total number of cook cycles per vat, the number of times the cook cycle was exited prior to completion and the number of hours the vat(s) have been on.

1. Perform steps 1-3 on pages 4-38.

Scroll to REVIEW USAGE.

2. With REVIEW USAGE displayed, press the ✓ (1 YES) button (see Figure 190).



Figure 190

The computer displays the date and time of the last reset usage.

3. Press the ▲ and ▼ buttons (see Figure 191) to scroll between:



Figure 191

FULL VAT CONFIGURATION

a. USAGE SINCE TIME, DATE – Usage since time and date of last reset.
b. TOTAL COOKS # – Number of cook cycles for all products.
c. QUIT COOK # – Number of cook cycles exited within first 30 seconds.
d. ON HRS # – Number of hours the vat has been on.
e. RESET USAGE – Resets usage counters.

SPLIT VAT CONFIGURATION

a. USAGE SINCE TIME, DATE – Usage since time and date of last reset.
b. TOTAL COOKS # – Number of cook cycles for all products.
c. QUIT COOK # – Number of cook cycles exited within first 30 seconds.
d. L ON HRS # – Number of hours the left vat has been on
e. R ON HRS # – Number of hours the right vat has been on
f. RESET USAGE – Resets usage counters.

4. If resetting usage statistics, return to step 3 and scroll to RESET USAGE, otherwise skip to step 7.

The computer displays RESET USAGE.

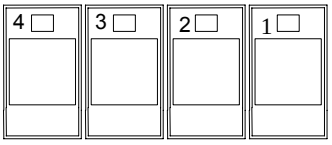
5. With the desired selection displayed, press the ✓ (1 YES) button to select chosen menu item (see Figure 192).



Figure 192

The computer displays ENTER CODE.

6. Using the number keys enter 4321 (see Figure 193). Note: Codes are changeable.



(4321)

Figure 193

The computer displays current date and time usage was reset.

7. Press the × **(2)** button (see Figure 194) to return to REVIEW USAGE prompt.



Figure 194

Computer displays REVIEW USAGE.

8. Press the × **(2)** button (see Figure 195) again to quit.



Figure 195

The computer displays OFF.

4.14.3 LAST LOAD MODE

The last load mode is used to review the information pertaining to the last cook cycle in the corresponding vat.

1. Perform steps 1-3 on pages 4-38.

The computer displays LAST LOAD for Full Vat configurations or LOAD L or LOAD R for Split Vat configurations.

2. With the desired selection displayed, press the ✓ (1 YES) button (see Figure 196).



Figure 196

3. Press the ▲ and ▼ buttons (see Figure 197) to scroll between:



Figure 197

FULL / SPLIT VAT CONFIGURATION

a. PRODUCT FRY – Last product cooked.
b. STARTED 02:34PM – Time last cook cycle started.
c. ACTUAL 3:15 – Actual cooking time including stretch time.
d. PROGTIME 3:10 – Programmed cook time.
e. MAX TEMP 337° – Maximum oil temperature recorded during the cook cycle.
f. MIN TEMP 310° – Minimum oil temperature recorded during the cook cycle.
g. AVG TEMP 335° – Average oil temperature recorded during the cook cycle.
h. HEAT ON 70 – Percentage of the cook time the heat source was on.
i. READY YES – Displays if the fryer was back to proper temperature before the cook cycle was started.

NOTE – Above numbers are examples. They do not reflect actual conditions.

4. Press the ✖ **(2)** button (see Figure 198) to return to LAST LOAD prompt.



Figure 198

5. Press the ✖ **(2)** button (see Figure 199) again to quit.

The computer displays OFF.



Figure 199

BIELA14 SERIES LOV™ ELECTRIC FRYER
CHAPTER 5: FILTRATION INSTRUCTIONS

5.1 Introduction

The FootPrint Pro filtration system allows the oil in one frypot to be safely and efficiently filtered while the other frypots in a battery remain in operation.

Section 5.2 covers preparation of the filter system for use. Operation of the system is covered in Section 5.3.

⚠ WARNING
The on-site supervisor is responsible for ensuring that operators are made aware of the inherent hazards of operating a hot oil filtering system, particularly the aspects of oil filtration, draining and cleaning procedures.

⚠ WARNING
The filter pad or paper MUST be replaced daily.

5.2 Preparing the Filter for Use

1. Pull the filter pan out from the cabinet and remove the crumb tray, hold-down ring, filter pad (or paper), and filter screen. (See Figure 1) Clean all metal parts with a solution of All Purpose Concentrate and hot water then dry thoroughly.

   The pan cover must not be removed except for cleaning, interior access, or to allow a shortening disposal unit (MSDU) to be positioned under the drain. If using an MSDU built before January 2004 see instructions on page 4-16.

2. Inspect the filter pan connection fitting to ensure that both O-rings are in good condition. (See Figure 2)

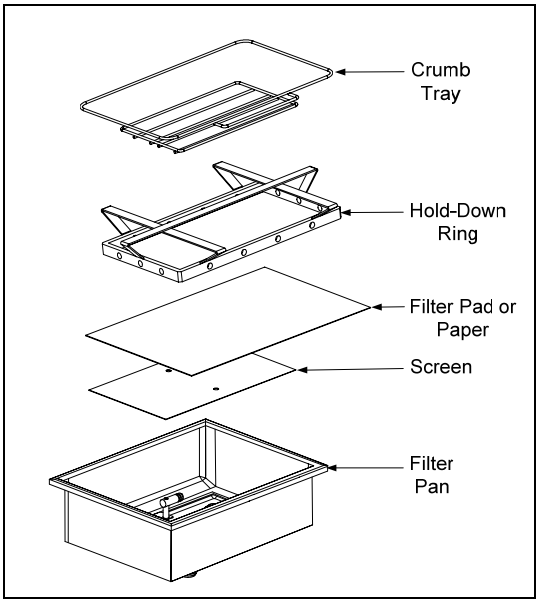


Figure 1

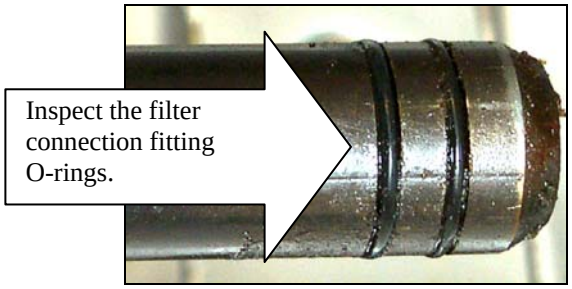


Figure 2

3. Then in reverse order, place the metal filter screen in the center of the bottom of the pan, then lay a filter pad over the screen, ensuring that the **rough** side of the pad is up. Make sure that the pad is in between the embossed ridges of the filter pan. Then position the hold down ring on top of the pad. If using filter paper, lay a sheet of filter paper over the top of the pan overlapping on all sides. Position the hold down ring over the filter paper and lower the ring into the pan, allowing the paper to fold up and around the ring as it is pushed to the bottom of the pan. Then sprinkle 1 packet (8-ounces) of filter powder over the filter paper.

4. Reinstall the crumb tray at the front of the pan. (See Figure 1)

   DO NOT USE FILTER POWDER WITH THE PAD!

5. Push the filter pan back into the fryer, positioning it under the fryer. The filtration system is now ready for use.

⚠ DANGER
Do not drain more than one frypot at a time into the built-in filtration unit to avoid overflow and spillage of hot oil that may cause severe burns, slipping and falling.

⚠ DANGER
The crumb tray in fryers equipped with a filter system must be emptied into a fireproof container at the end of frying operations each day. Some food particles can spontaneously combust if left soaking in certain shortening material.

⚠ WARNING
Do not bang fry baskets or other utensils on the fryer's joiner strip. The strip is present to seal the joint between the fry vessels. Banging fry baskets on the strip to dislodge shortening will distort the strip, adversely affecting its fit. It is designed for a tight fit and should only be removed for cleaning.

5.3 Auto Intermittent Filtration (AIF)

Auto Intermittent Filtration (AIF) is a feature that, after a number of preset cook cycles or time, will automatically filter frypots.

An M2007 computer controls the Auto Intermittent Filtration (AIF) system on the LOV™ fryer. After a preset number of cook cycles or time the computer will display FLTR NOW. The blue LED is activated simultaneously (see Figure 2). The LED will turn off once a filtration cycle is started. If **NO** is selected or a cook cycle is started, the blue LED will go off and will prompt again soon to filter the oil.



Figure 2

Press ✓ **(1)** for **YES** to start filtration and × **(2)** for **NO** (see Figure 3).



Figure 3

Note: If a timer button is activated during this filter prompt it will be as if No is chosen. (See below.)

If **YES** is chosen, SKIM VAT is displayed for ten seconds changing to CNFM FLTR. Skim the crumbs from the oil with a front to back motion, removing as many crumbs as possible from each vat. This is critical to optimizing usable oil life and quality in the oil.

Note: If NO is chosen in response to either FLTR NOW or CNFM FLTR, filtering is cancelled and the fryer resumes normal operation. The FLTR NOW prompt is displayed once the FLTR AFTR count is satisfied. This sequence repeats until yes is chosen.

If the filter pan is not fully engaged, the computer displays CHK PAN. Once the filter pan is pushed fully into place, press the ✓ **(1)** button to continue.

When ✓ **(1) YES** is chosen, the fryer displays FILTERING and the auto filtration cycle is started.

Note: Simultaneous filtering of multiple vats does not occur.

Once filtering is complete the computer display changes to LOW TEMP until the fryer reaches setpoint.

Once fryer reaches setpoint and the computer display changes to the product or dashed lines, the fryer is ready for use.

The complete filtering process takes roughly three minutes.

⚠ DANGER
Keep all items out of drains. Closing actuators may cause damage or injury.

5.4 Troubleshooting the Auto Intermittent Filtration (AIF)

5.4.1 Incomplete AIF (Filter Error)

Should the AIF procedure fail for any reason after the filter pad was changed a signal is generated telling the computer that something is wrong. Use the chart on page 5-6 to clear the error.

The computer displays FILTER ERROR for ten seconds then displays FILL POT FROM DRAIN PAN.

1. With FILL POT FROM DRAIN PAN displayed, press the ✓ (**1** YES) to continue (see Figure 4).



Figure 4

Computer displays a countdown timer while the pump is running.

Computer displays IS POT FILLED alternating with YES NO.

2. Press ✓ (**1** YES) if the vat is full (see Figure 5) and the computer displays CHANGE FILTER PAD. Skip to **Section 5.4.2 CHANGE FILTER PAD.** If the pot is not filled completely continue to step three.



Figure 5

3. Press **× (2 NO)** (see Figure 6) if pot is not filled completely.



Figure 6

The pump runs again.

Computer displays a countdown timer while the pump is running.

Computer displays IS POT FILLED alternating with YES NO again.

4. Press ✓ (**1** YES) if the vat is full (see Figure 7) and the computer displays CHANGE FILTER PAD. Skip to **Section 5.4.2 CHANGE FILTER PAD.** If the pot is not filled completely continue to step five.



Figure 7

5. Press **× (2 NO)** (see Figure 8) if pot is not filled completely.



Figure 8

The pump runs again.

Computer displays a countdown timer while the pump is running.

Computer displays IS POT FILLED alternating with YES NO again.

If NO is chosen a third time (see Figure 9), the computer displays SERVICE REQUIRED. The fryer is disabled. Call your FASC to repair and reset the computer.



Figure 9

5.4.2 Change Filter Pad Prompt

The computer displays CHANGE FILTER PAD alternating with YES NO.



Figure 10

1. Change the filter pad and ensure the filter pan has been pulled forward, out of the cabinet, for at least **TWO** minutes. **DO NOT PRESS** the ✓ (**1 YES**) button before **TWO** minutes have elapsed.

2. Press the ✓ (**1 YES**) button (see Figure 10)

The computer returns to the regular cook mode.

The computer restarts the CHANGE FILTER PAD sequence in 15 minutes if the pan was not pulled from the cabinet for two minutes.

Pressing **× (2 NO)** (See Figure 11), restarts a 15- minute timer ending with the CHANGE FILTER PAD alternating with YES NO prompt with both the JIB and Filter lights flashing. This cycle will repeat until the filter pan is pulled forward, out of the cabinet, for at least **TWO** minutes and then pressing the ✓ (**1 YES**) button. **DO NOT PRESS** the ✓ (**1 YES**) button before **TWO** minutes have elapsed. Pressing the ✓ (**1 YES**) and or **× (2 NO)** button before **TWO** minutes have elapsed, starts the 15-minute timer cycle to repeat again.

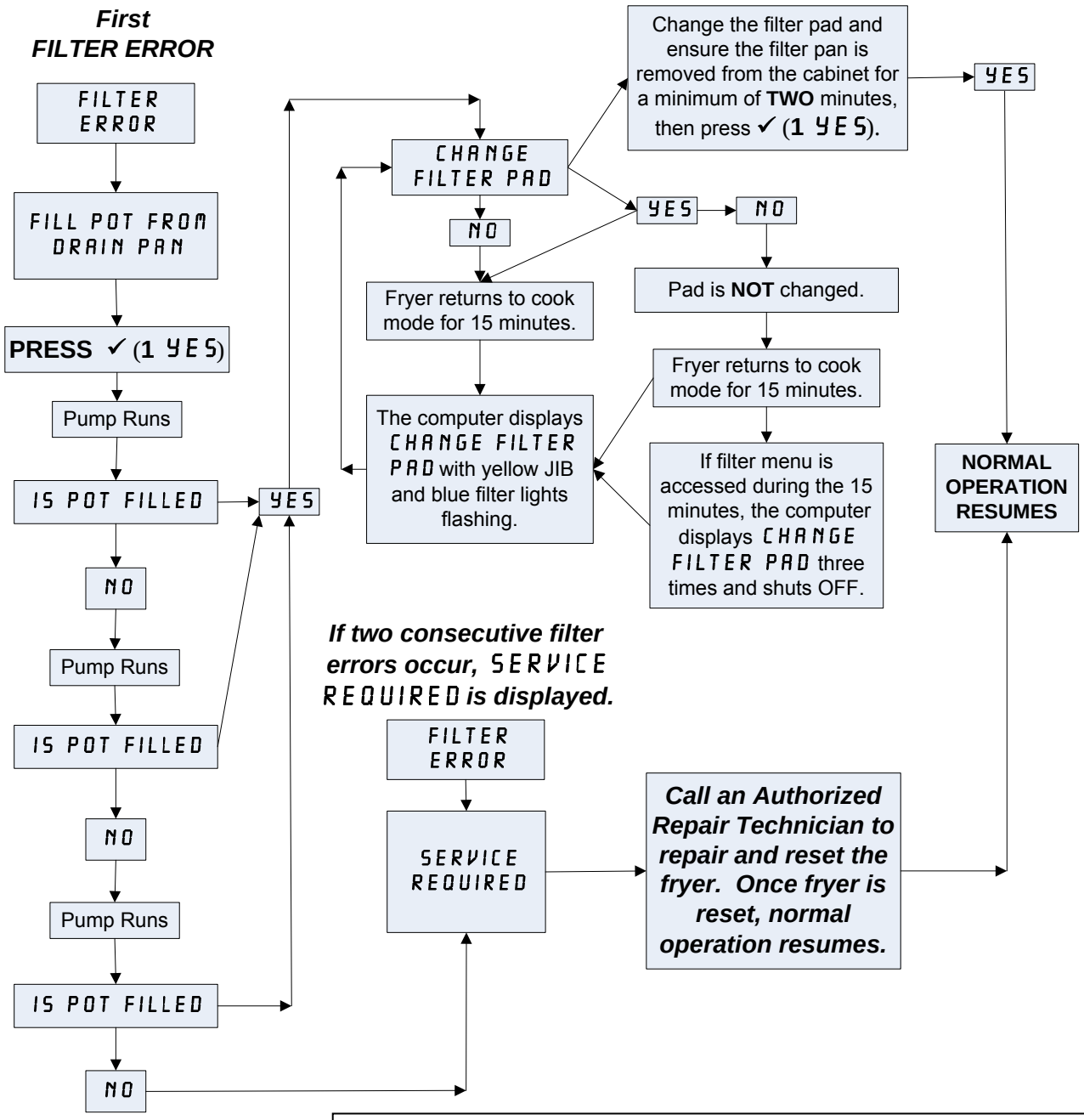


Figure 11

5.4.3 Second Filter Error in a Row

The computer displays FILTER ERROR for ten seconds then displays SERVICE REQUIRED. The fryer is disabled. Call your FASC to repair and reset the computer.

5.4.4 Filter Error Flowchart



This chart follows the process of clearing a **FILTER ERROR** prompt. The prompt is displayed when any of the following occur:

1. a clogged filter pad,
2. a tripped or defective filter pump,
3. a pan/pan switch issue.
4. a leaky O-ring on the pick-up tube,
5. a failed drain valve/actuator, or
6. a failed return valve/actuator.

It is cleared by following the prompts. If the computer displays **SERVICE REQUIRED**, the fryer is locked out until reset by a technician.

5.4.5 Filter Busy

When FILTER BUSY is displayed the MIB board is waiting on another vat to be filtered or waiting on a computer error to clear. Wait 30 minutes to see if problem is corrected. If not, follow the instructions below.

⚠ DANGER

Do not drain more than one frypot at a time into the built-in filtration unit to avoid overflow and spillage of hot oil that may cause severe burns, slipping and falling.

The reset switch (see Figure 12) is used in case the valves did not close completely. Pressing the reset switch closes all the valves and resets the system. It takes approximately 60 seconds to completely reset the filter system.



Figure 12

NOTE: The auto top off feature and the fryer continue to operate normally during this reset.

⚠ WARNING

The filter pump is equipped with a manual reset switch in case the filter motor overheats or an electrical fault occurs. If this switch trips, turn off power to the filter system and allow the pump motor to cool 20 minutes before attempting to reset the switch (see Figure 13).

⚠ WARNING

Use caution and wear appropriate safety equipment when resetting the filter pump reset switch. Resetting the switch must be accomplished with care to avoid the possibility of a serious burn from careless maneuvering around the drain tube and frypot.

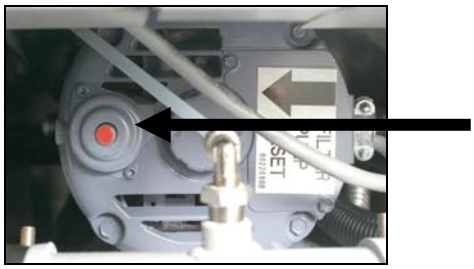


Figure 13 Filter Pump Reset Switch

5.5 Manual or End of Day Filtration (MAINT FLTR)

NOTICE
The filter pad or paper must be replaced daily.

⚠ DANGER
Do not drain more than one frypot at a time into the built-in filtration unit to avoid overflow and spillage of hot oil that may cause severe burns, slipping and falling.

Ensure that the filter pad or paper is replaced daily to keep the system operating correctly.

1. The fryer **MUST** be at setpoint temperature. With the computer OFF press and hold the **FLTR** button for three seconds (see Figure 14).



Figure 14

Computer displays FLTR MENU for three seconds changing to AUTO FILTER.

2. Press the ▼ **(INFO)** button (see Figure 15) to scroll to MAINT FLTR.



Figure 15

3. When the desired selection is displayed press the ✓ (1 YES) button to continue (see Figure 16).



Figure 16

The screen alternates between MAN FLTR and YES NO.

4. Press the ✓ (1 YES) button to start the manual filtration process (see Figure 17).



Figure 17

The heat source is disabled and the system verifies that the pan is in place.

If no pan is in place the computer displays CHK PAN until a pan is detected. The computer displays FILTERING and oil drains from the frypot

⚠ DANGER
Keep all items out of drains. Closing actuators may cause damage or injury.

The computer display changes to SCRUB VAT COMPLETE.

5. Clean the vat with a scrub brush and press the ✓ (1 YES) button to continue when complete (see Figure 18). The drain valve closes and the vat is ready to be refilled with oil.



Figure 18

The computer displays WASH VAT.



Figure 19

6. Press the ✓ (1 YES) button to continue (see Figure 19).

The return valve opens and the pot is flushed with oil from the pan.

The filter pump shuts off and the computer displays WASH AGAIN alternating with YES NO.



Figure 20

7. If the pot is clean of debris, press the × (2 NO) button to continue and skip the wash again cycle (see Figure 20). If crumbs are still present, press the ✓ (1 YES) button and the filter pump runs for another 30 seconds. This cycle repeats until the × (2 NO) button is pressed.

The computer displays RINSING. The drain valve closes and the filter pump continues to run and refills the pot.

The drain valve opens and remains open and the computer displays RINSE AGAIN alternating with YES NO.



Figure 21

8. If the pot is clear of debris, press the × (2 NO) button to continue and skip the rinse again cycle (see Figure 21). If rinse again is desired, press the ✓ (1 YES) button and the rinse repeats. This cycle repeats until the × (2 NO) button is pressed.

⚠ DANGER
Keep all items out of drains. Closing actuators may cause damage or injury.

The computer displays POLISH alternating with YES NO.



Figure 22

9. Press the ✓ (1 YES) button to continue (see Figure 22).

The filter pump turns on. The drain and return valves are open and oil is pumped through the frypot. The computer displays STOP POLISH and a five minute countdown timer. When the timer expires, the filter pump shuts off.

The computer displays FILL VAT alternating with YES NO.



Figure 23

10. Press the ✓ (YES) button to continue (see Figure 23).

The drain valve closes and the filter pump turns on and refills the frypot. As the frypot fills, bubbles appear, the return valve closes and the pump shuts off. Once the system verifies the oil level, the top off pump will add oil if necessary.



Figure 24

The computer displays IS POT FILLED alternating with YES NO.

11. Press the ✓ (YES) button (see Figure 24) if the pot is filled to continue, otherwise press the × (2 NO) button (see Figure 21) to run the pump again ending with the computer displaying IS POT FILLED alternating with YES NO again.

The computer will verify the oil temperature and turn on the heat source if needed. The computer will display LOW TEMP until the setpoint is reached.

Once setpoint is reached, the computer displays the product or dashed lines and is ready to resume cooking.

Note: Cooking cannot start until low temp display changes to product or dashed lines.

BIELA14 SERIES LOV™ ELECTRIC FRYER
CHAPTER 6: PREVENTATIVE MAINTENANCE

6.1 Cleaning the Fryer

⚠ DANGER

The crumb tray in fryers equipped with a filter system must be emptied into a fireproof container at the end of frying operations each day. Some food particles can spontaneously combust if left soaking in certain shortening material.

⚠ DANGER

Never attempt to clean the fryer during the frying process or when the frypot is filled with hot oil. If water comes in contact with oil heated to frying temperature, it will cause spattering of the oil, which can result in severe burns to nearby personnel.

⚠ WARNING

Use McDonald's All Purpose Concentrate. Read the directions for use and precautionary statements before use. Particular attention must be paid to the concentration of cleaner and the length of time the cleaner remains on the food contact surfaces.

6.1.1 Clean Inside and Outside of the Fryer Cabinet – Daily

Clean inside the fryer cabinet with a dry, clean cloth. Wipe all accessible metal surfaces and components to remove accumulated oil and dust.

Clean the outside of the fryer cabinet with a clean, damp cloth soaked with McDonald's All Purpose Concentrate. Wipe with a clean, damp cloth.

6.1.2 Clean the Built-in Filtration System – Daily

⚠ WARNING

Never drain water into the filter pan. Water will damage the filter pump.

There are no periodic preventive maintenance checks and services required for your FootPrint Pro Filtration System other than daily cleaning of the filter pan and associated components with a solution of hot water and McDonald's All Purpose Concentrate.

6.1.3 Clean Behind Fryers – Weekly

Clean behind fryers in accordance with the procedure detailed in maintenance requirement card (MRC14A).

⚠ WARNING

To ensure the safe and efficient operation of the fryer and hood, the electrical plug for the 120-volt line, which powers the hood, must be fully engaged and locked in its pin and sleeve socket.

6.1.4 Clean the Frypot and Heating Elements – Quarterly

⚠ DANGER

Never operate the appliance with an empty frypot. The frypot must be filled to the fill line with water or cooking oil before energizing the elements. Failure to do so will result in irreparable damage to the elements and may cause a fire.

Deep Clean (Boiling Out) the Frypot

Before the fryer is first used, it should be boiled out to ensure that residue from the manufacturing process has been eliminated. Also, after the fryer has been in use for a period of time, a hard film of caramelized cooking oil will form on the inside of the frypot. This film should be periodically removed by following the deep-clean (boil-out) procedure contained in Kay Chemical "Fryer Deep Clean Procedure" instructions. *Refer to page 4-27 for specific details on setting up the computer for deep clean (boil-out) operation.*

Replace the O-rings

Refer to McDonald's MRC cards for specific details on replacing the O-rings on the filter connection.

6.1.5 Clean Detachable Parts and Accessories – Weekly

Wipe all detachable parts and accessories with a clean, dry cloth. Use a clean cloth saturated with a solution of McDonald's All Purpose Concentrate to remove accumulated carbonized oil on detachable parts and accessories. Rinse the parts and accessories thoroughly with clean water and wipe dry before reinstalling.

6.1.6 Check M2007 Computer Set Point Accuracy- Bi-Weekly

1. Insert a good-grade thermometer or pyrometer probe into the oil, with the end touching the fryer temperature-sensing probe.
2. When the computer display shows a series of dashes "----" or a product name (indicating that the frypot contents are within the cooking range), press the 

switch once to display the temperature of the oil as sensed by the temperature probe.
3. Press the 

switch twice to display the set point.
4. Note the temperature on the thermometer or pyrometer. Actual temperature and pyrometer readings should be within ± 5ºF (3ºC) of each other. If not, contact a Factory Authorized Service Center for assistance.

6.2 Annual/Periodic System Inspection

This appliance should be inspected and adjusted periodically by qualified service personnel as part of a regular kitchen maintenance program.

Frymaster recommends that a Factory Authorized Service Technician inspect this appliance at least annually as follows:

Fryer

- Inspect the cabinet inside and out, front and rear for excess oil.
- Verify that the heating element wires are in good condition and that leads have no visible fraying or insulation damage and that they are free of oil.

- Verify that heating elements are in good condition with no carbon/caramelized oil build-up. Inspect the elements for signs of extensive dry-firing.
- Verify that the tilt mechanism is working properly when lifting and lowering elements and that the element wires are not binding and/or chafing.
- Verify the heating-element amp-draw is within the allowed range as indicated on the appliance's rating plate.
- Verify that the temperature and high-limit probes are properly connected, tightened and functioning properly, and that mounting hardware and probe guards are present and properly installed.
- Verify that component box and contactor box components (i.e. computer/controller, relays, interface boards, transformers, contactors, etc.) are in good condition and free from oil and other debris.
- Verify that component box and contactor box wiring connections are tight and that wiring is in good condition.
- Verify that all safety features (i.e. contactor shields, reset switches, etc.) are present and functioning properly.
- Verify that the frypot is in good condition and free of leaks and that the frypot insulation is in serviceable condition.
- Verify that all wiring harnesses and connections are tight and in good condition.

Built-In Filtration System

- Inspect all oil-return and drain lines for leaks and verify that all connections are tight.
- Inspect the filter pan for leaks and cleanliness. If there is a large accumulation of crumbs in the crumb basket, advise the owner/operator that the crumb basket should be emptied into a fireproof container and cleaned daily.
- Verify that all O-rings and seals are present and in good condition. Replace O-rings and seals if worn or damaged.
- Check filtration system integrity as follows:
  - Verify that filter pan cover is present and properly installed.
  - With the filter pan empty, place each vat into return to pan selection, one at a time. Verify proper functioning of each oil return valve by activating the filter pump using the return to pan selection. Verify that the pump activates and that bubbles appear in the cooking oil of the associated frypot.
  - Verify that the filter pan is properly prepared for filtering, then drain a frypot of oil heated to 350°F (177°C) into the filter pan by using the drain to pan selection (see page 4-21). Now using the fill pot from pan selection (see page 4-22), allow all oil to return to the frypot (indicated by bubbles in the cooking oil). Press the check button when all oil is returned. The frypot should have refilled in approximately 2 minutes and 30 seconds.

BIELA14 SERIES LOV™ ELECTRIC FRYER
CHAPTER 7: OPERATOR TROUBLESHOOTING

7.1 Introduction

This section provides an easy reference guide to some of the common problems that may occur during the operation of this equipment. The troubleshooting guides that follow are intended to help correct, or at least accurately diagnose, problems with this equipment. Although the chapter covers the most common problems reported, you may encounter problems that are not covered. In such instances, the Frymaster Technical Services staff will make every effort to help you identify and resolve the problem.

When troubleshooting a problem, always use a process of elimination starting with the simplest solution and working through to the most complex. Never overlook the obvious – anyone can forget to plug in a cord or fail to close a valve completely. Most importantly, always try to establish a clear idea of why a problem has occurred. Part of any corrective action involves taking steps to ensure that it doesn't happen again. If a controller malfunctions because of a poor connection, check all other connections, too. If a fuse continues to blow, find out why. Always keep in mind that failure of a small component may often be indicative of potential failure or incorrect functioning of a more important component or system.

Before calling a service agent or the Frymaster HOTLINE (1-800-24-FRYER):

- **Verify that electrical cords are plugged in and that circuit breakers are on.**
- **Verify that frypot drain valves are fully closed.**
- **Have your fryer's model and serial numbers ready to give to the technician assisting you.**

⚠ DANGER

Hot oil will cause severe burns. Never attempt to move this appliance when filled with hot oil or to transfer hot oil from one container to another.

⚠ DANGER

This equipment should be unplugged when servicing, except when electrical circuit tests are required. Use extreme care when performing such tests.

This appliance may have more than one electrical power supply connection point. Disconnect all power cords before servicing.

Inspection, testing, and repair of electrical components should be performed by an authorized service agent only.

7.2 Troubleshooting

7.2.1 Computer and Heating Problems

Problem	Probable Causes	Corrective Action
No Display on Computer.	A. Computer not turned on.	A. Press the ON/OFF switch to turn the computer on.
	B. No power to the fryer.	B. Verify computer power cord is plugged in and that circuit breaker is not tripped.
	C. Computer has failed.	C. Call 1-800-551-8633 for assistance.
	D. Damaged computer wiring harness.	D. Call 1-800-551-8633 for assistance.
	E. Power supply component or interface board has failed.	E. Call 1-800-551-8633 for assistance.
M2007 displays FILTER ERROR.	A filter error has occurred due to dirty or clogged filter pad or paper, clogged filter pumps, improperly installed filter pan components, worn or missing O-rings, cold oil or filter pump thermal overload.	Follow instructions on page 5-4 through 5-7 to clear the FILTER ERROR error. If problem persists, call 1-800-551-8633 for assistance.
Fryer does not heat.	A. Drain valve is open.	A. Check status of MIB – Press reset if letter other than A is displayed.
	B. Computer has failed.	B. Call 1-800-551-8633 for assistance.
	C. Main power cord not plugged in.	C. Verify that both the main power cord and 120V is fully seated in its receptacle, locked into place and that circuit breaker is not tripped.
	D. One or more other components have failed.	D. Call 1-800-551-8633 for assistance.
	E. Main switch inside cabinet next to fuse is switched to OFF.	E. Ensure the switch is switched to ON, then switch the computer off and then on again.
Fryer does not heat after filtering.	Drain valve is open.	Check status of MIB – Press reset if letter other than A is displayed.
Fryer heats until high-limit trips with heat indicator ON.	Temperature probe or computer has failed.	Call 1-800-551-8633 for assistance.
Fryer heats until high-limit trips without heat indicator ON.	Contactor or computer has failed	Call 1-800-551-8633 for assistance.
M2007 displays CHANGE FILTER PAD.	Filter error has occurred, filter pad clogged, 24 hour filter pad change prompt has occurred or change filter pad was ignored on a prior prompt.	Change the filter pad and ensure the filter pan has been removed from the fryer for a minimum of **TWO** minutes, then press ✓ (1 YES) following any additional instruction prompts displayed on the computer. Do **NOT** ignore CHANGE FILTER PAD prompts.

7.2.2 Error Messages and Display Problems

Problem	Probable Causes	Corrective Action
M2007 display is in wrong temperature scale (Fahrenheit or Celsius).	Incorrect display option programmed.	Toggle between F° to C° by pressing and holding ◄ and ► simultaneously until CODE appears. Enter 1658. The computer displays OFF. Turn the computer on to check temperature. If the desired scale is not displayed, repeat.
M2007 display shows HOT-HI-1.	Frypot temperature is more than 410ºF (210ºC) or, in CE countries, 395ºF (202ºC).	Shut the fryer down immediately and call 1-800-551-8633 for assistance.
M2007 display shows PROBE FAILURE.	Problem with the temperature measuring circuitry including the probe.	Shut the fryer down and call 1-800-551-8633 for assistance.
M2007 display shows IGNITION FAILURE.	Open drain valve, failed computer, failed interface board, open high-limit thermostat.	Verify that the drain valves are fully closed. If this does not correct the problem, call 1-800-551-8633 for assistance.
M2007 display shows PROBE FAILURE **with alarm sounding.**	Damaged computer wiring harness or connector.	Call 1-800-551-8633 for assistance.
M2007 display shows IGNITION FAILURE **with alarm sounding. Heating indicator is on, but fryer is not heating.**	Drain valve not fully closed.	Press the reset switch on the front of the MIB box, located inside the filter cabinet. All drain valves should close. Turn the computer OFF and then ON again. If the problem continues call 1-800-551-8633 for assistance.
M2007 display shows RECOVERY FAULT **and alarm sounds.**	Recovery time exceeded maximum time limit.	Clear error and silence the alarm by pressing the ✓ button.
M2007 display shows RECOVERY FAULT CALL SERVICE **and alarm sounds.**	Recovery time exceeded maximum time limit for two or more cycles.	Clear error and silence the alarm by pressing the ✓ button. Call 1-800-551-8633 for assistance. Maximum recovery time for electric is 1:40.
M2007 display shows REMOVE DISCARD.	In non-dedicated mode a product is dropped that has a different setpoint than the current vat temperature.	Remove and discard product. Press and hold the cook button for three seconds under the display with the error to remove the error. Reset the setpoint of the vat before trying to cook product.
Computer locks up.	Computer error.	Call 1-800-551-8633 for assistance.
M2007 displays CHANGE FILTER PAD **three times and displays** OFF.	No was chosen on previous CHANGE FILTER PAD prompt or yes and no were pressed consecutively.	Wait 15 minutes until CHANGE FILTER PAD is displayed with flashing lights. Change filter pad if needed and ensure the pan is removed from cabinet for at least TWO minutes. Then press ✓ (1 YES) to clear message.

Problem	Probable Causes	Corrective Action
M2007 displays CHANGE FILTER PAD with yellow and blue LED's flashing.	No was chosen on previous CHANGE FILTER PAD prompt.	Change filter pad if needed and ensure the pan is removed from cabinet for at least **TWO** minutes. Then press ✓ (1 YES) to clear message.
M2007 displays SERVICE REQUIRED.	Filter error was not cleared properly.	Call 1-800-551-8633 for assistance.
M2007 displays BUSY WAIT 30 SECONDS.	Action chosen while MIB is resetting.	Wait until MIB displays "A".

7.2.3 Filtration Problems

Problem	Probable Causes	Corrective Action
Filter pump won't start or pump stops during filtering.	A. Power cord is not plugged in or circuit breaker is tripped.	A. Verify that the power cord is fully plugged in and the circuit breaker is not tripped.
	B. Pump motor has overheated causing the thermal overload switch to trip.	B. If the motor is too hot to touch for more than a few seconds, the thermal overload switch has probably tripped. Allow the motor to cool at least 45 minutes then press the Pump Reset Switch.
	C. Blockage in filter pump.	C. Call 1-800-551-8633 for assistance.
Drain valve or return valve stays open.	A. AIF board has failed. B. Actuator has failed.	Call 1-800-551-8633 for assistance.
M2007 display shows CHK PAN.	A. Filter pan is not fully set into fryer. B. Missing filter pan magnet. C. Defective filter pan switch.	A. Pull filter pan out and fully reinsert into fryer. B. Ensure the filter pan magnet is in place and replace if missing. C. If the filter pan magnet is fully against the switch and computer continues to display CHK PAN, switch is possibly defective.
Auto filtration won't start.	A. Check that MIB board is not in manual mode. B. Check to see that the MIB cover is not damaged and depressing the buttons. C. Filter relay has failed. D. AIF is set to enabled, blue light doesn't light.	A. Ensure MIB board is in "A" automatic mode. Press the reset button. B. Remove and replace cover and see if filtration will start. C. Call 1-800-551-8633 for assistance. D. Set AIF in Level 1 to disabled.
Fryer filters after each cook cycle.	A. Filter after setting incorrect or software update issue.	A. Change or overwrite the filter after setting by re-entering the filter after value in level two. Ensure that the down arrow is pressed after entering the value to save the setting (see section 4.13.5 on page 4-36).

Problem	Probable Causes	Corrective Action
MAINT FILTER **(Manual Filter) won't start.**	Temperature too low.	Ensure fryer is at setpoint before starting MAINT FILTER.
M2007 display shows FILTER BUSY.	Another filtration cycle is still in process.	A. Wait until the previous filtration cycle ends to start another filtration cycle. B. A computer has an error. Using the filter menu, try to perform a FILL POT FROM DRAIN PAN on each vat (see section 4.11.3 page 4-22). Only computers with errors can perform this function with a filter busy error. Computer should clear and return to normal operation once complete.

7.2.4 Auto Top-Off Problems

Problem	Probable Causes	Corrective Action
Frypots won't top off.	A. Fryer temperature too low. B. Oil is too cold. C. M2007 not readdressed after ATO power lost.	A. Fryer temperature must be at setpoint. B. Ensure that the oil in the JIB is above 70°F (21°C). C. Switch all M2007 computers off and then on again to readdress system. If problem persists call 1-800-551-8633 for assistance.
Fryer tops off cold.	Incorrect setpoint.	Ensure setpoint is correct.
One vat doesn't top off.	A. Filter error exists. B. Solenoid, pump, RTD or ATO issue.	A. Clear filter error properly. When change filter pad YES/NO is displayed, do **NOT** press any button until the pan has been removed for at least two minutes. After two minutes have elapsed, press YES. Display returns to normal cook mode. Filter error cleared, low vat should begin to top off. If problem persists call 1-800-551-8633 for assistance. B. Call 1-800-551-8633 for assistance.



Enodis®
One Company, Countless Solutions

Frymaster, L.L.C., 8700 Line Avenue, Shreveport, Louisiana 71106

TEL 1-318-865-1711 **FAX (Parts) 1-318-688-2200** **(Tech Support) 1-318-219-7135**

SERVICE HOTLINE
1-800-551-8633

PRINTED IN THE UNITED STATES

819-6239
FEBRUARY 2008